

Enhancing flexibility to support the evolving power system

OSM \oplus SE

FINAL CONFERENCE, 24 MARCH 2022

Hosted by

Rte

Le réseau
de transport
d'électricité

Project overview

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The OSMOSE project

- ✓ H2020 EU funded
- ✓ 28M€ budget
- ✓ 33 partners
- ✓ Leaders: RTE, REE, TERNA, ELES, CEA, TUB
- ✓ 01/2018 – 04/2022



OSMOSE objectives

- **Improve the understanding of future needs and sources of flexibility** required to achieve the decarbonization of Europe
 - ✓ Modelling and quantification of flexibility in European Long-term scenarios
- Foster the **implementation** of innovative flexible solutions
 - ✓ Large scale demonstrators led by Transmission System Operators (TSOs)
 - ✓ Advanced tools for Battery Energy Storage System operators and power System Operators



What is Flexibility ?


*The **power system's** ability to cope with **variability** and **uncertainty** in demand, generation and grid, over different **timescales**.*

What is Flexibility ?

The **power system's** ability to cope with

variability and **uncertainty** in demand, generation and grid,

over different **timescales**.



Predictable,
e.g. seasons, day/night



Hardly predictable,
e.g. line outage, clouds

What is Flexibility ?

All assets can be flexible



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All time scales are interrelated

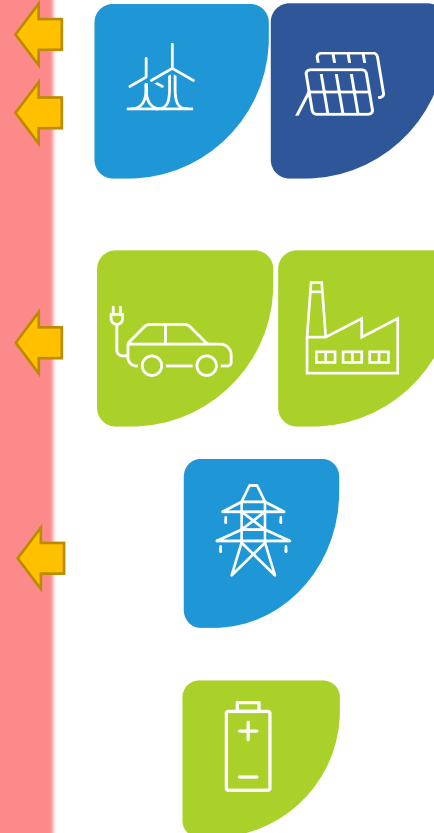
New opportunities and challenges for flexibility

Challenges

Increasing variability and uncertainty
Replacement of synchronous machines

New peak of loads

More grid congestions



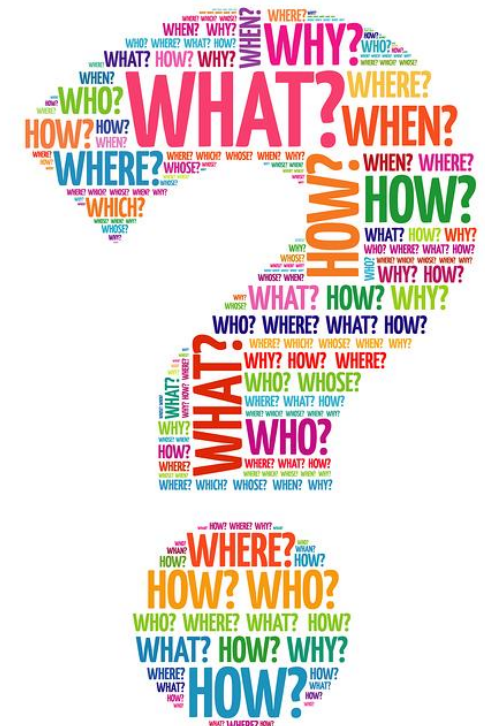
Opportunities

Smart deployment and control

Large storage solutions

Some questions we will discuss today

- How to better 'capture' flexibility in our modelling and planning tools that impact decision making?
- How to implement and assess grid forming capability on off-the-shelf equipment's?
- How to improve the economic value of storage in view of system service provision?
- What is the real-life benefit of using RES and industrial loads to provide short-term system services?
- How to better coordinate flexibilities at grid level and how does it impact the TSO everyday practice?



Agenda of the day

Morning

- 10:30** Modelling and quantifying the future of flexibility
- 11:30** Demonstrating BESS & inverters' flexibility
- 12:40** Lunch break

Afternoon

- 14:00** Demonstration of RES, industrial loads and grid flexibility
- 15:15** Round table with invited panelists
DG Energy, ENTSO-E/ ETIP SNET, ACER, SAFT
- 15:50** Conclusions
- 16:00** Networking coffee

How to know more ?

- Deliverables, publications, final report and videos on **project website**
- **Today presentations** will be uploaded there
- **Webinar series** in April-May with technical presentations



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