

ORES



Faciliter l'énergie, faciliter la vie



Unlocking Flexibility

The DSO as a catalyser for consumer flexibility

Didier Halkin, Amsterdam 4 October 2017



Welcome

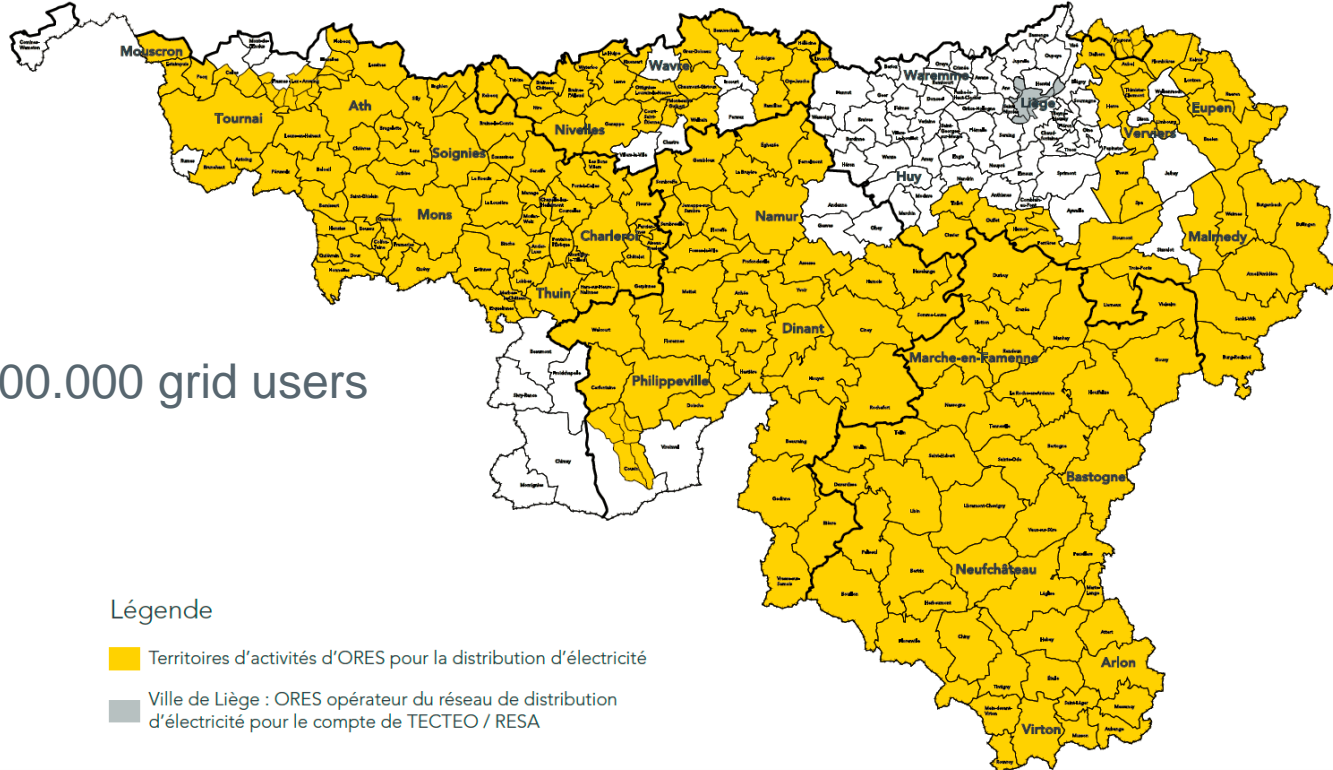
ORES

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Faciliter la vie.





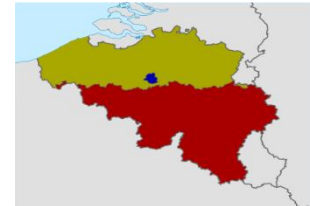
ORES – South Belgium Walloon DSO

1.300.000 grid users



Légende

-  Territoires d'activités d'ORES pour la distribution d'électricité
-  Ville de Liège : ORES opérateur du réseau de distribution d'électricité pour le compte de TECTEO / RESA



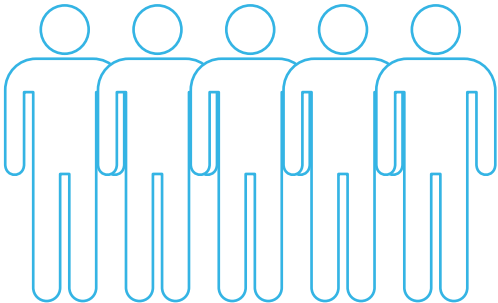
A large outdoor concert stage under construction. The stage is dark with a curved top edge featuring a green geometric pattern and the text 'ROCK WERCHTER'. The structure is complex, with many metal trusses, cables, and large vertical speaker stacks. A blue semi-transparent box is overlaid on the left side of the image, containing white and yellow text. In the background, a crane is visible against a clear sky. A few people can be seen on the stage floor.

On stage today

- Context to congestion issues
- Boundaries and possibilities of a flexibility market
- Models to alleviate system stress
- Assessment criteria of the DSO workflow
- First findings & next steps
- **An open ticket to contribute**

The new energy system: local, simultaneous & growing fast

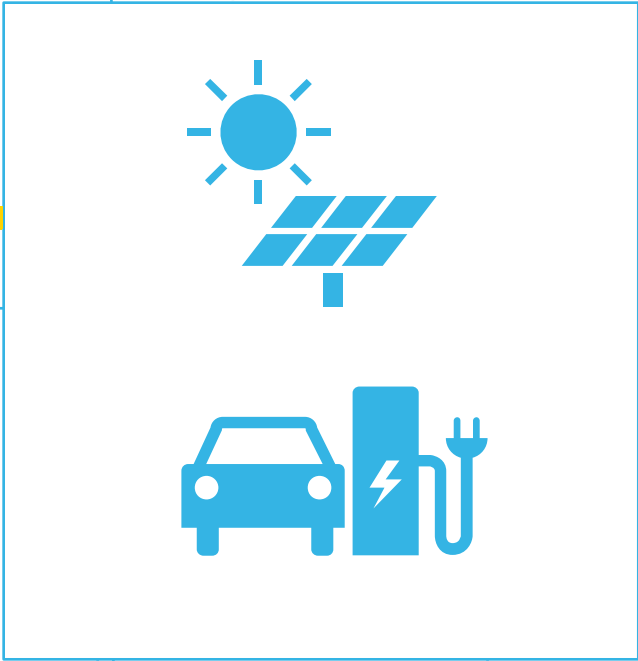
A new emerging market



Increased electrification



More renewables



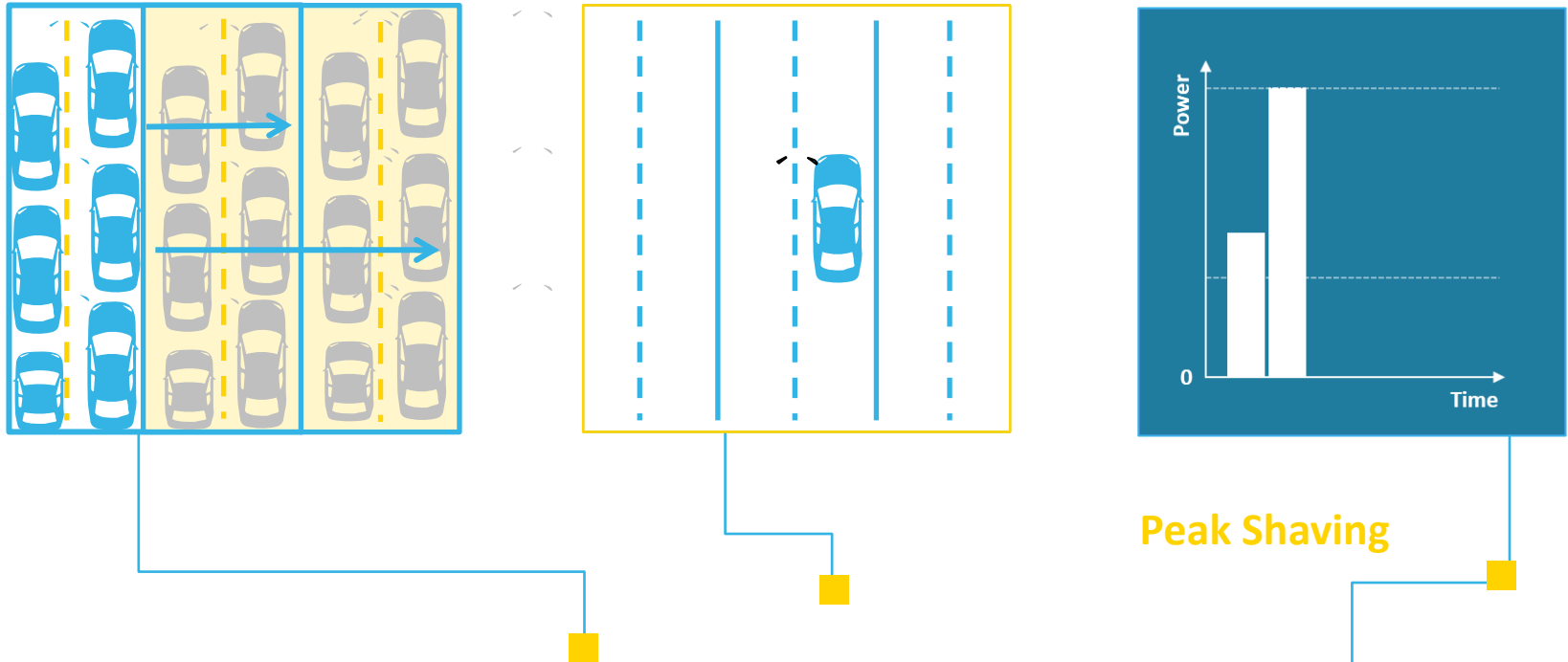


Congestion
in the city of Werchter (BE)

What is congestion



Flexibility: a strong painkiller



Flexibility: a strong painkiller for different parties



Flexibility
Provider

Flexibility Requesting Parties

Grid
Operation



Distribution System
Operator

Flex for
Market
optimization



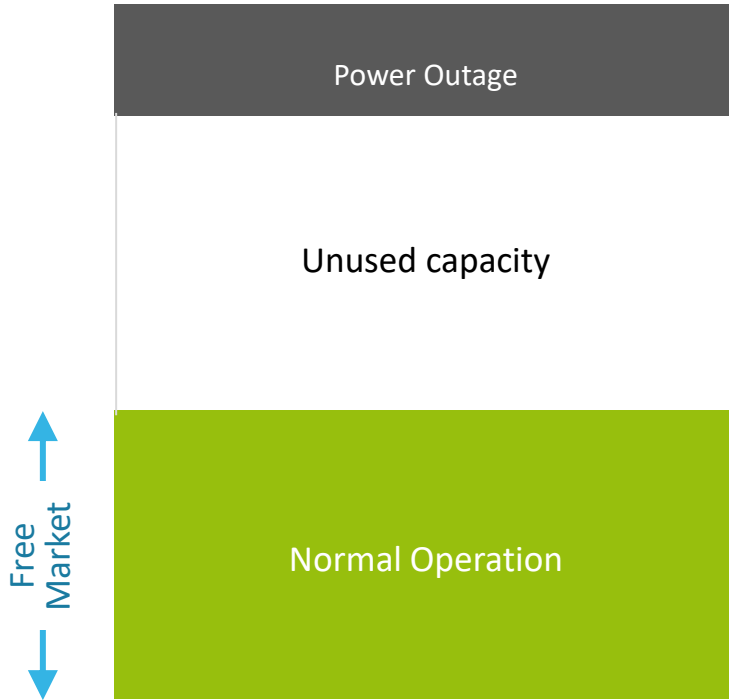
Balance Responsible
Party

System
Balance

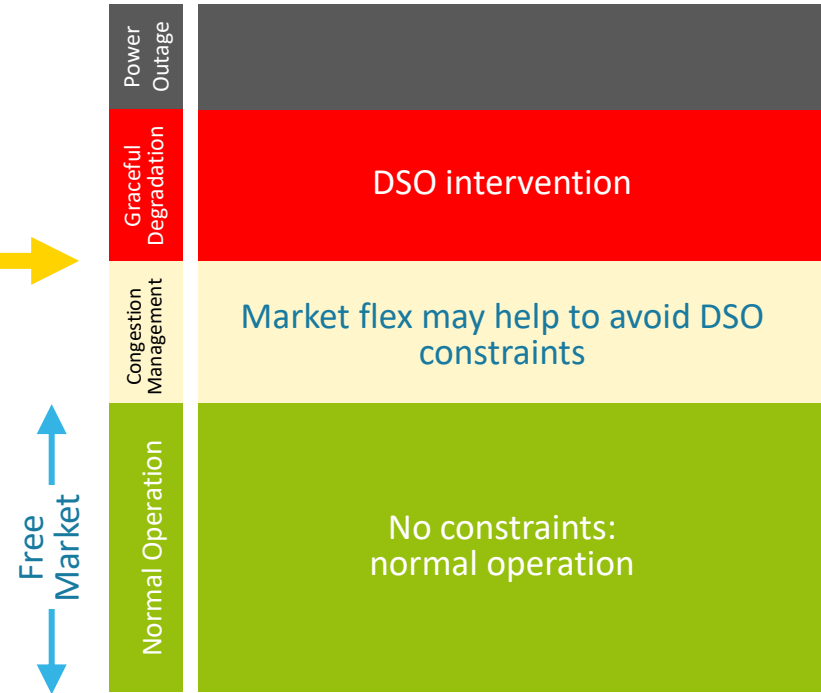


Transmission
System Operator

CLASSIC GRID



SMART GRID



Adding flex maximises the market potential



Power
Outage

Graceful
Degradation

Congestion
Management

Normal
Operation

DSO intervention

Market flex may help to avoid DSO
constraints

No constraints:
normal operation

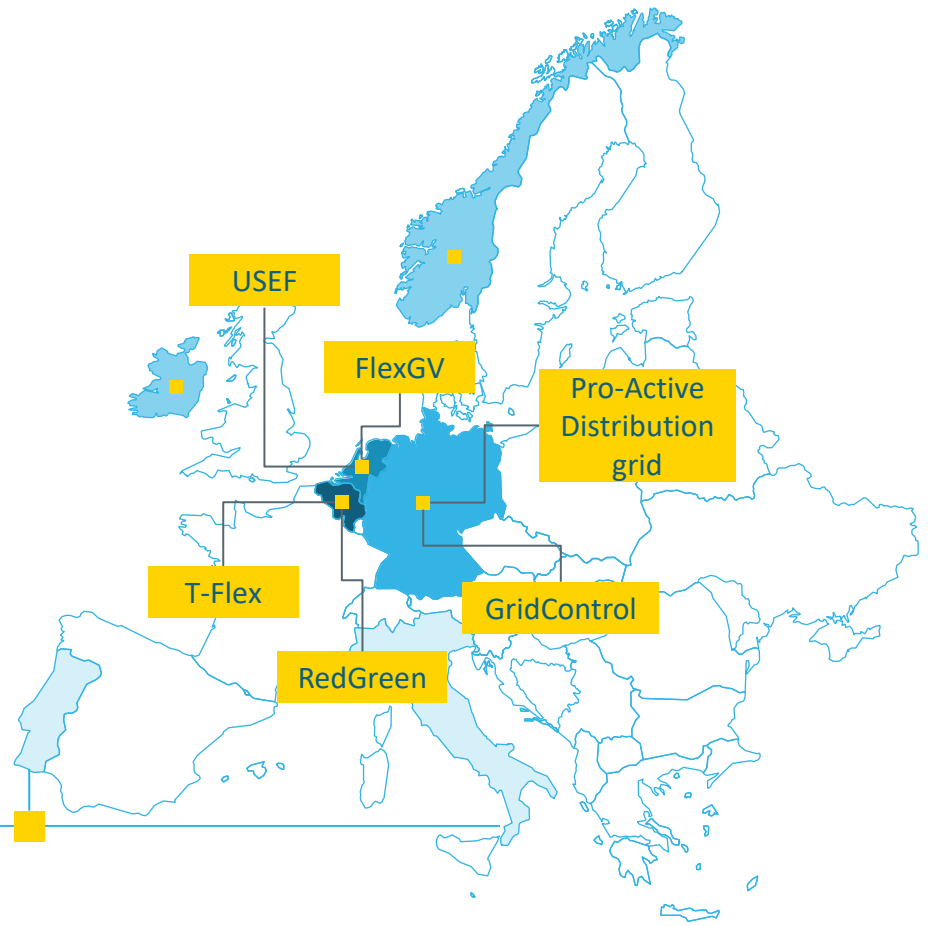
Werchter: accomodating as many music lovers as possible

- early bird activities the day before the festival opens
- headline events: extra parking restrictions with additional public transport

Different countries use different approaches

Already assessed by the workgroup:
Initiatives from Belgium, Germany, Ireland, The Netherlands and Norway

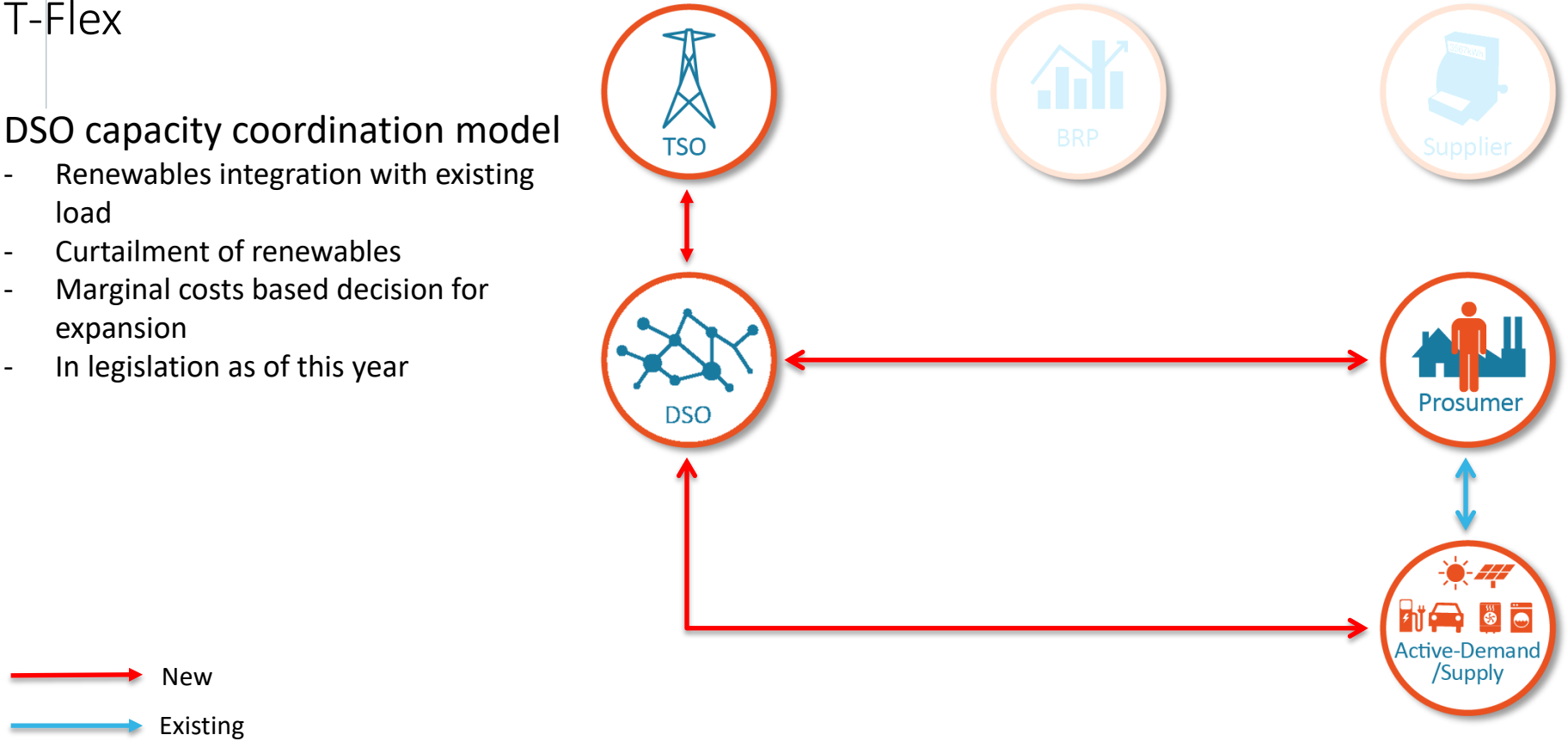
Planned:
Italy and Portugal



T-Flex

DSO capacity coordination model

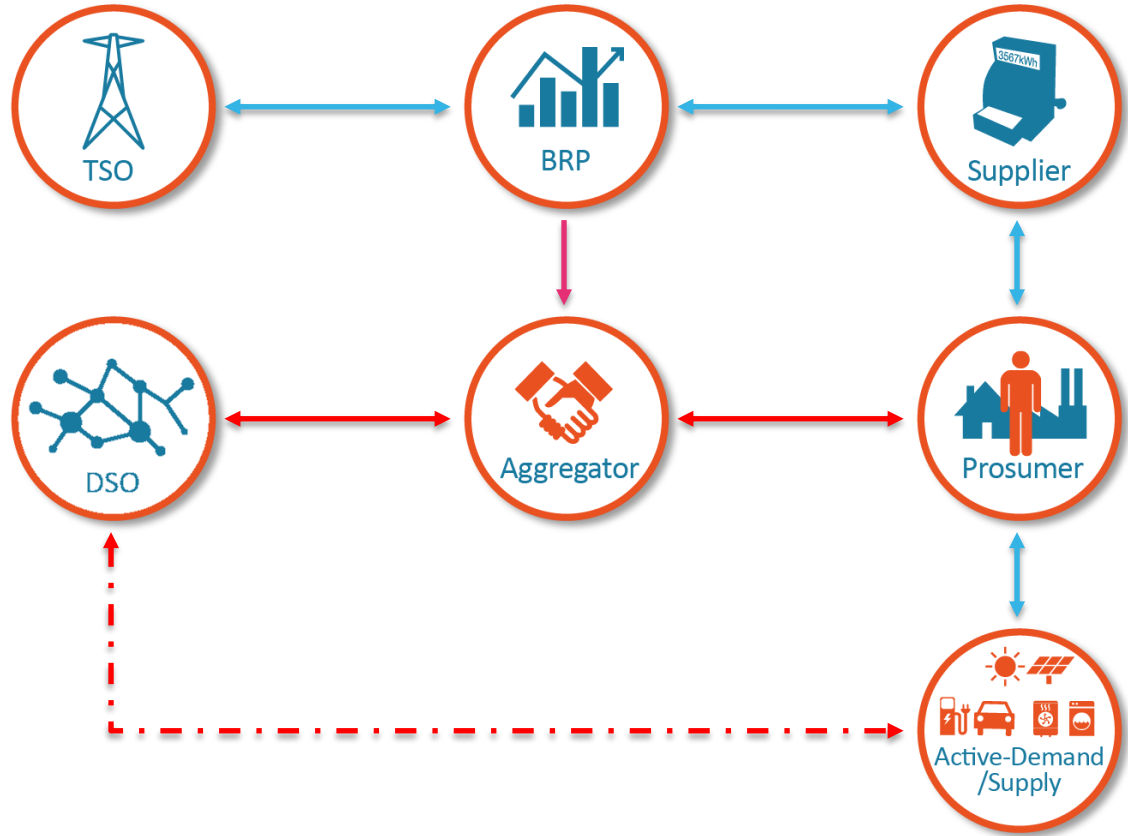
- Renewables integration with existing load
- Curtailment of renewables
- Marginal costs based decision for expansion
- In legislation as of this year



USEF

Flexibility of all resources and entities is traded on all markets.

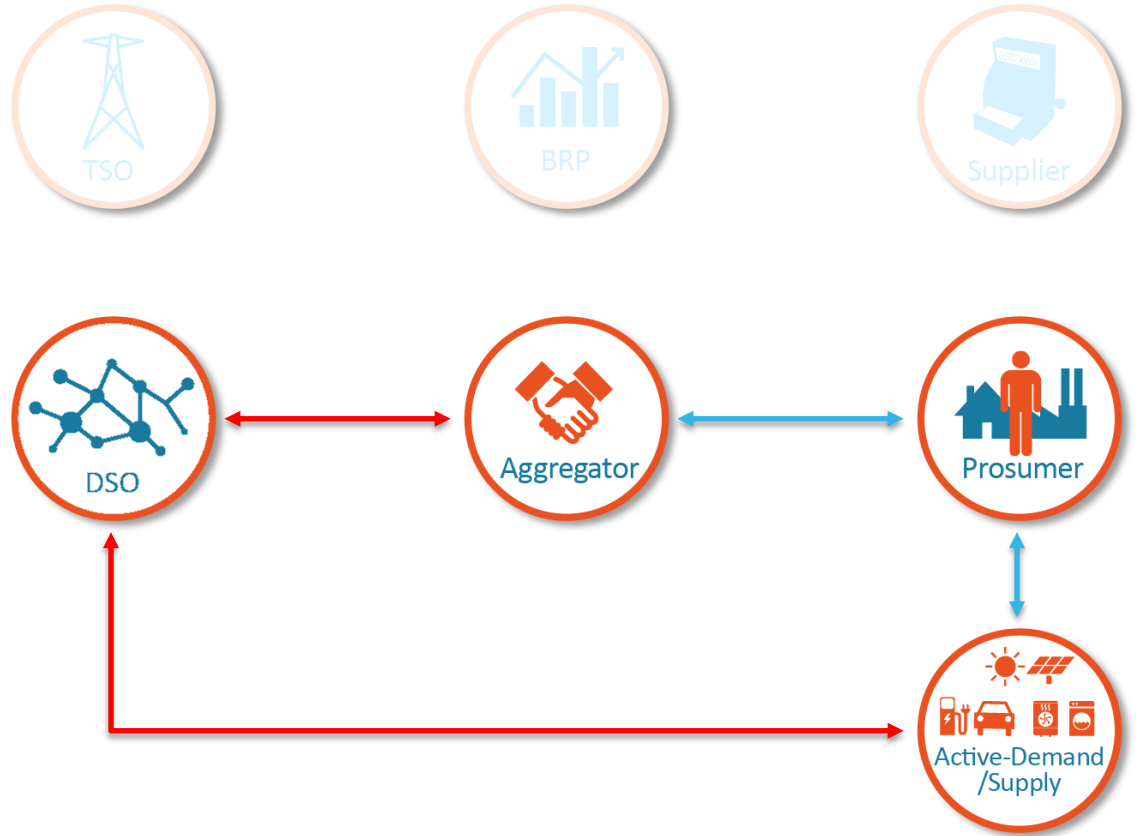
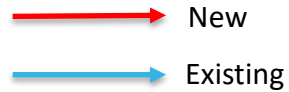
- All resources can join
- Can be used by DSO and TSO
- Congestion management by long term contracts as well as intraday trading
- Supports a market based solution in the yellow phase as well as a technical solution in the orange/red phase



Grid Control

DSO oriented quota model

- DSO provides quota for each aggregator.
- Aggregators can trade quotas with each other.
- Adds a yellow phase to the current existing green and red phase to avoid curtailment of customers.
- Red regime by controlling customer devices



1. Steering:
Administrative (implicit)
versus technical (explicit)

2. Business model:
Regulated (DNB controlled)
or market based

FLEXIBILITY
Assessment clusters

3. Flex source & customer type:
RES/DSR, industrial/residential

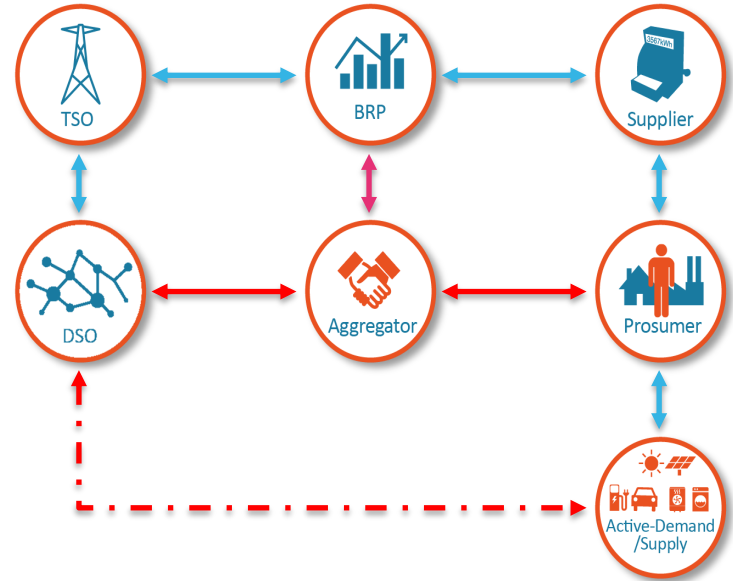
4. Financials:
business value, gaming sensitivity,
initial & operational cost

Interim findings

Each model has strong points and is designed to solve one more specific challenges – now and in the future – technical and market based.

Important topics for market based solution models:

1. The price of the flexibility
2. Capacity reduction through providing a certain bandwidth to the market or through buying enough flexibility from market players



November: interim report available

Next: open invitation to all EUR DSOs

To enrich the first findings
all European DSOs are invited to
also map their models against the criteria defined.

Subscribe to USEF's newsletter to follow progress,
results and entry forms.



A large crowd of people at a concert, many holding up their phones to capture photos or videos. A bright stage light beam cuts through the dark air from the top right corner. In the bottom left, a person is seen from behind on a stage, gesturing towards the audience.

More music....

Nov2017: Interim report

DSOs to also map their models
against the criteria defined

Early 2018: Integrating wider market
results and presenting the final report



The future?

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THANK YOU

