OneNet Open Day

WP9 Western Cluster

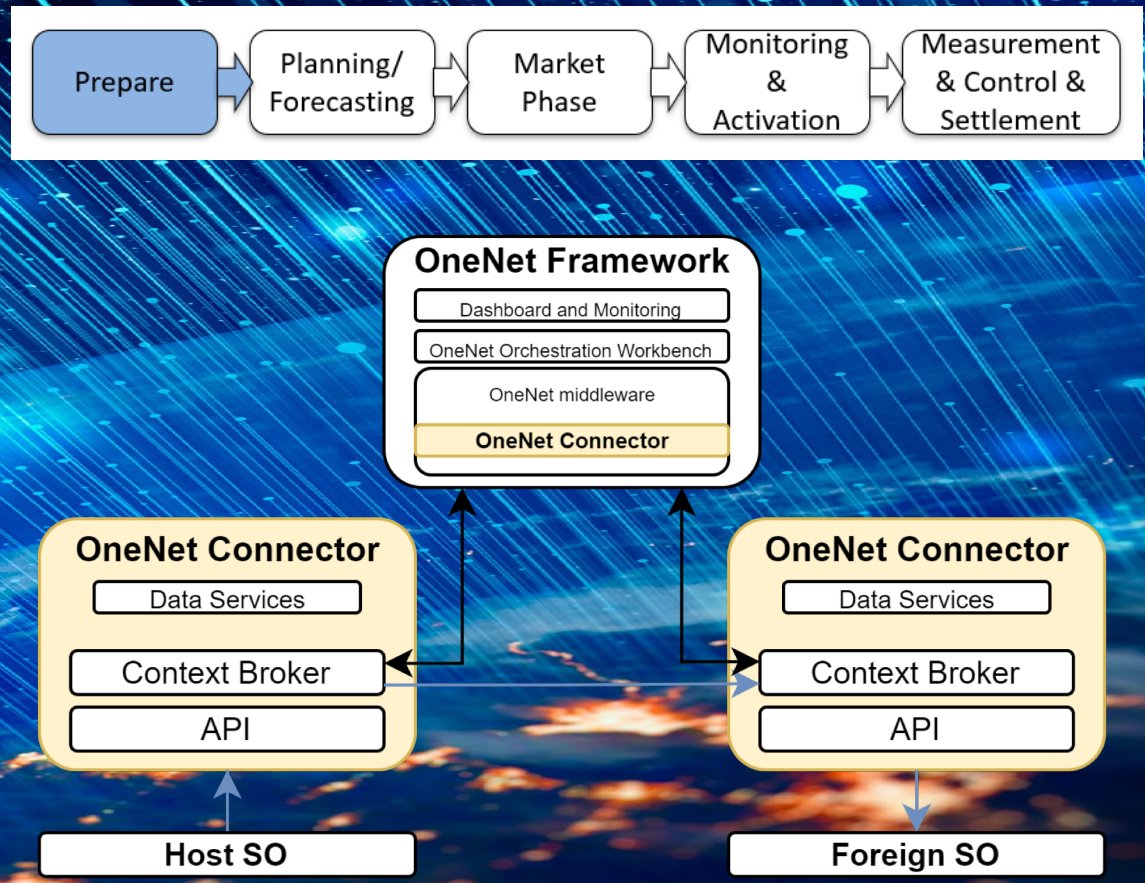
Portugal, Spain, France

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 957739

Regional Use Case

Cross-Border Pre-qualification Process

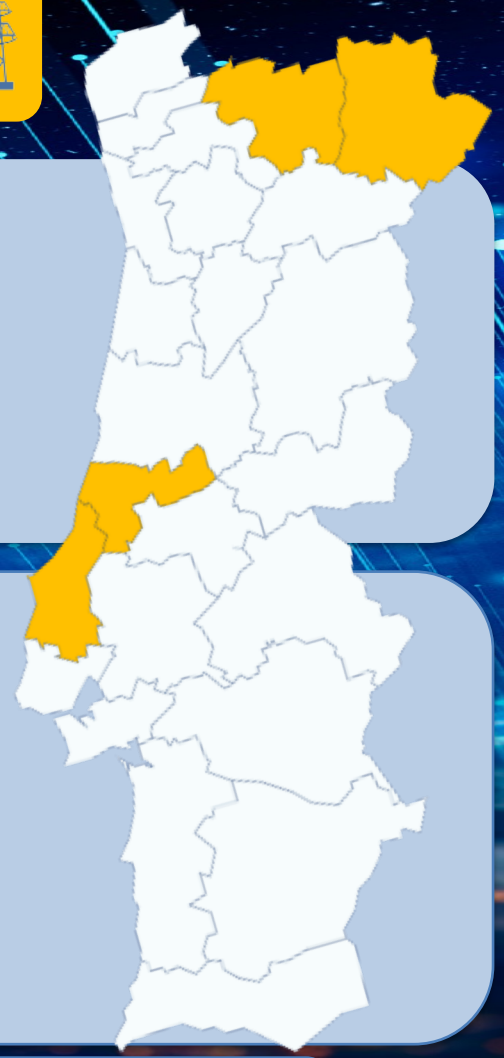
Fields	Example
ID	PT-FSP30
Name	John Doe
Type of Resource	EV + Smart Charger
Single or Three Phase Load	Three-Phase
Mode of Activation	Automatic
Flexibility Direction	Up and Down
Locational Information	Lisboa
SO Connected	E-REDES
Single or Agreggated Portfolio	Single
Maximum Quantity	22 kW
Maximum Full Activation time	2 min
Grid Prequalification Result	Accepted



Western Cluster – Portuguese Demonstrator

ONENET
one network for Europe

DSO ⟷ Coordination & Data Exchange ⟷ TSO



Flexibility

DSUC_WE_PT_01 **Combined testing of Pre-qualification processes**

DSUC_WE_PT_02 **Identification and sharing of flexibility needs**

Operational Planning

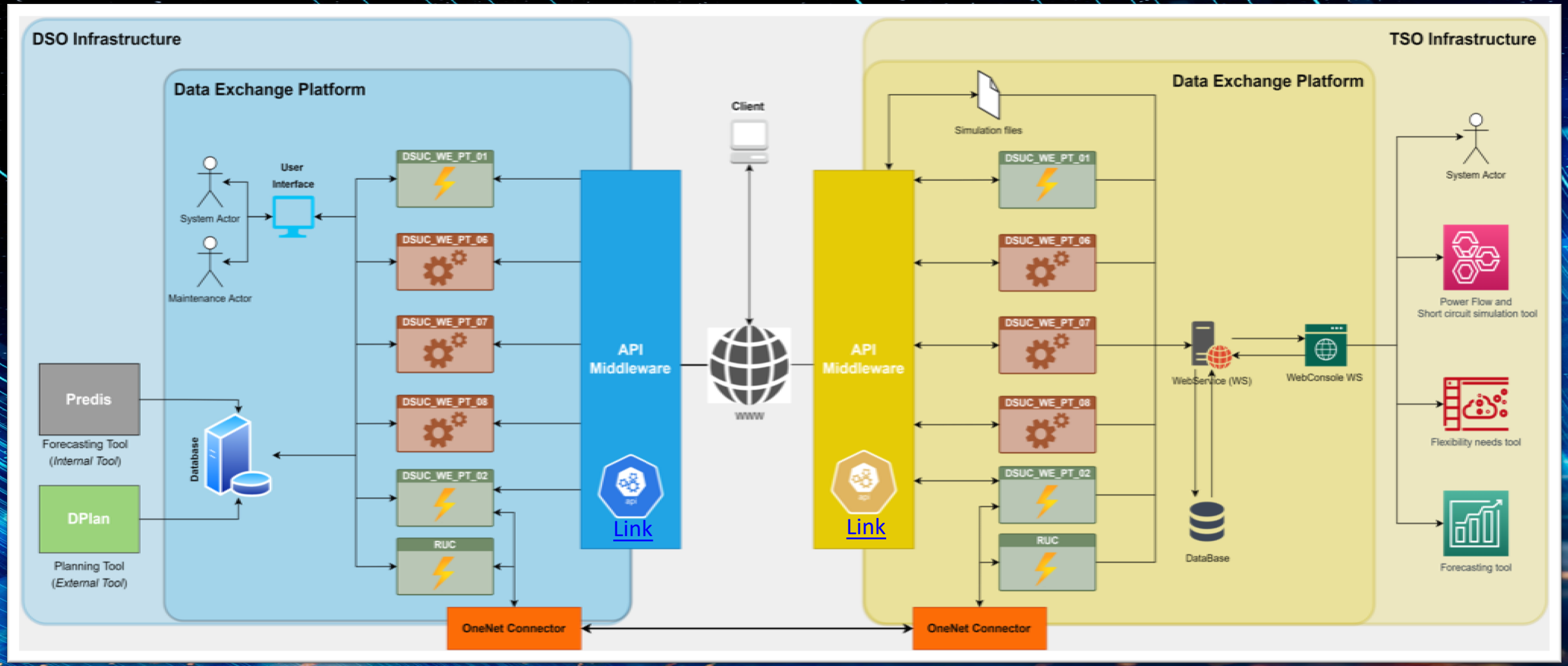
DSUC_WE_PT_06 **Combined and coordinated Maintenance Plans**

DSUC_WE_PT_07 **Sharing of Generation and Load forecasts**

DSUC_WE_PT_08 **Sharing of Short-circuits levels calculation**

E-REDES · R&D NESTER · REN · INESCTEC

Technical Architecture & API Specification & Data Exchange



EUniversal

TDX-ASSIST & EU-SysFlex

Western Cluster - Spanish Demonstrator

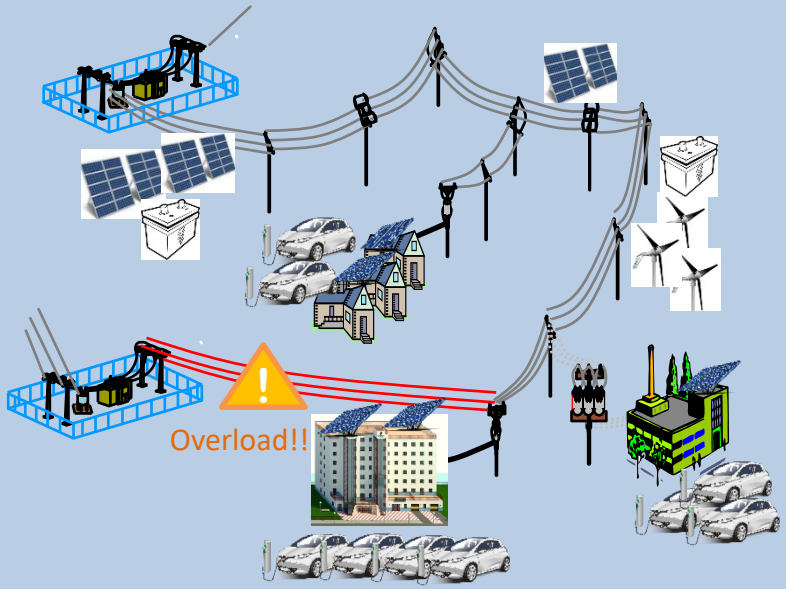
DSOs operation

Distribution System Operator, DSO

i-DE Grupo IBERDROLA ufd Grupo Naturgy

Short-term or long-term needs:

- High voltage
- Low voltage
- Thermal overload

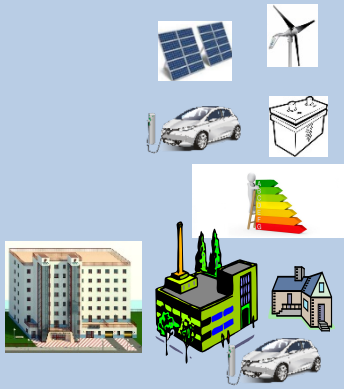


Network reinforcement

- Re-conductor and/or rebuild line
- New line
- Replace transformer
- Add a new transformer
- Add capacitor banks
- Upgrade equipment

Benefit cost analysis

Flexibility



- Distributed generation
- Energy storage
- Energy efficiency
- Demand respond

DSOs operation

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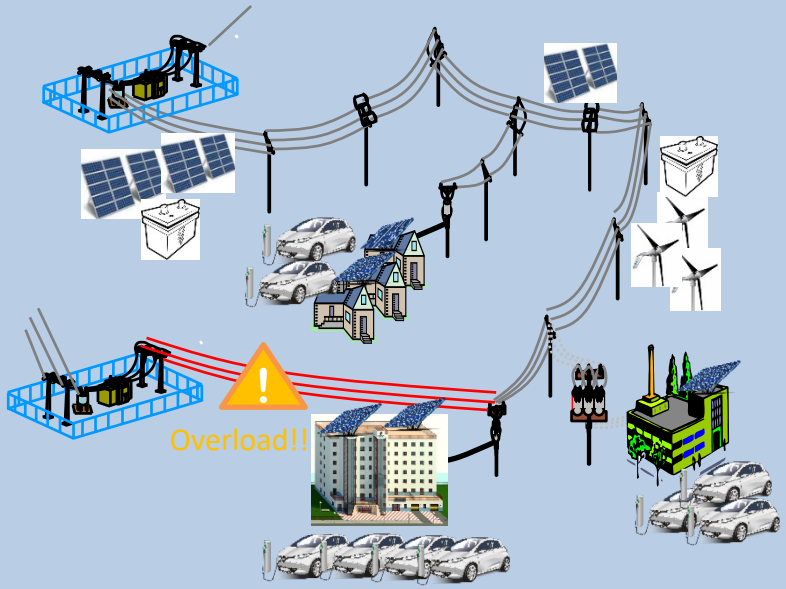


Network reinforcement

- Re-conductor and/or rebuild line
- New transmission line
- Replace transformer
- Add a new transformer
- Add capacitor banks
- Upgrade equipment

Benefit cost analysis

Flexibility

COMILLAS UNIVERSIDAD PONTIFICIA ICAI ICADE CIHS

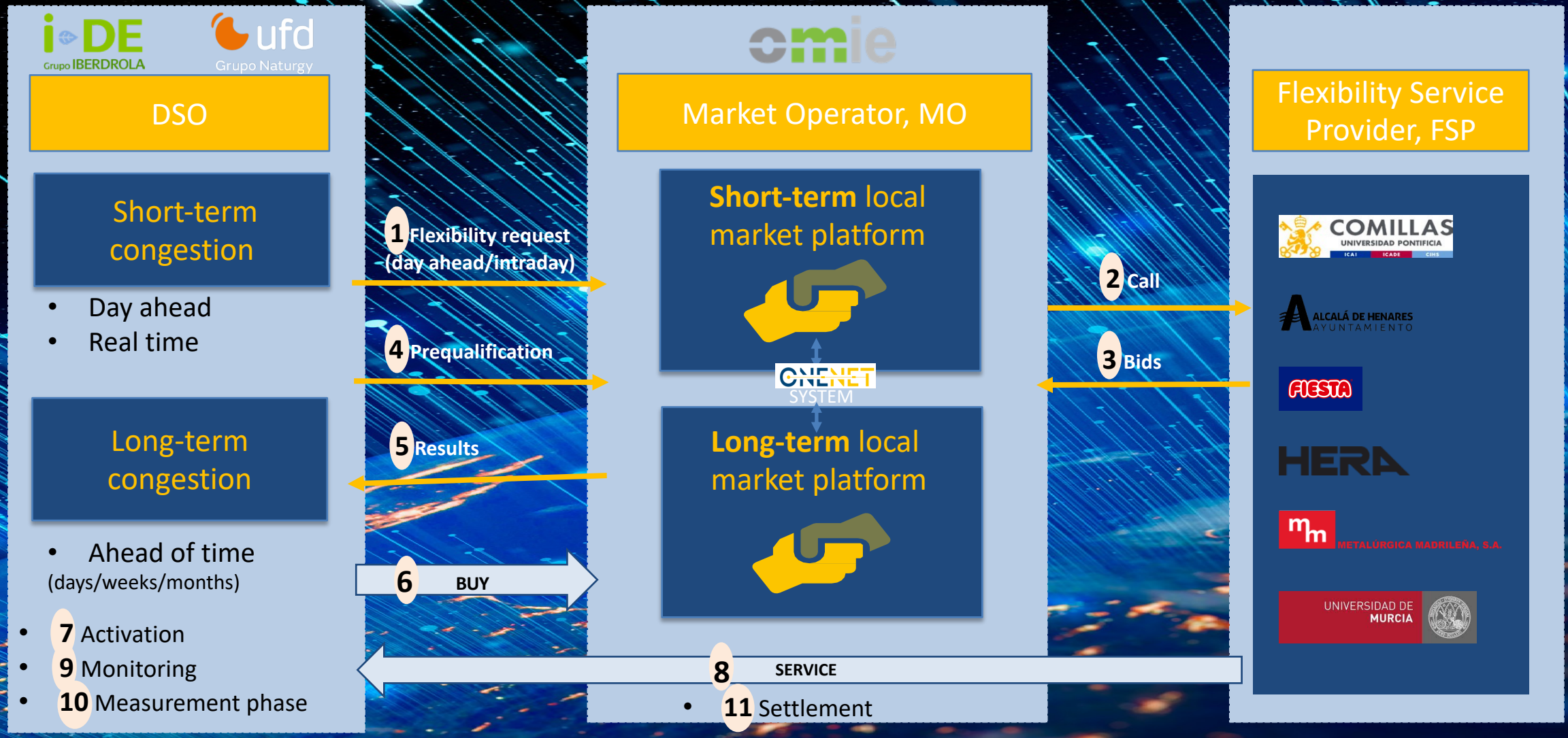
ALCALÁ DE HENARES AYUNTAMIENTO FIESTA HERA

METALÚRGICA MADRILEÑA, S.A.

UNIVERSIDAD DE MURCIA

- Distributed generation
- Energy storage
- Energy efficiency
- Demand respond

Flexibility adquisition= Market mechanism



Western Cluster– French Demonstrator

Partners

Rte

ENEDIS

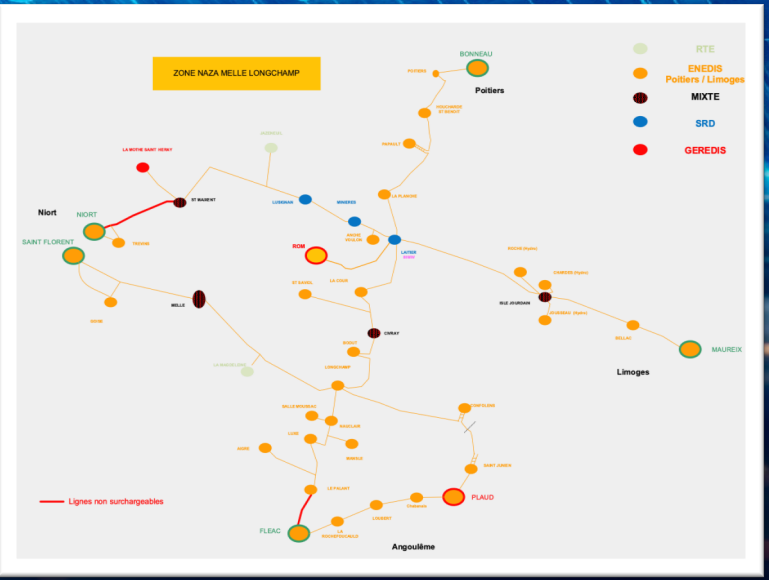
Participants

Wind producers

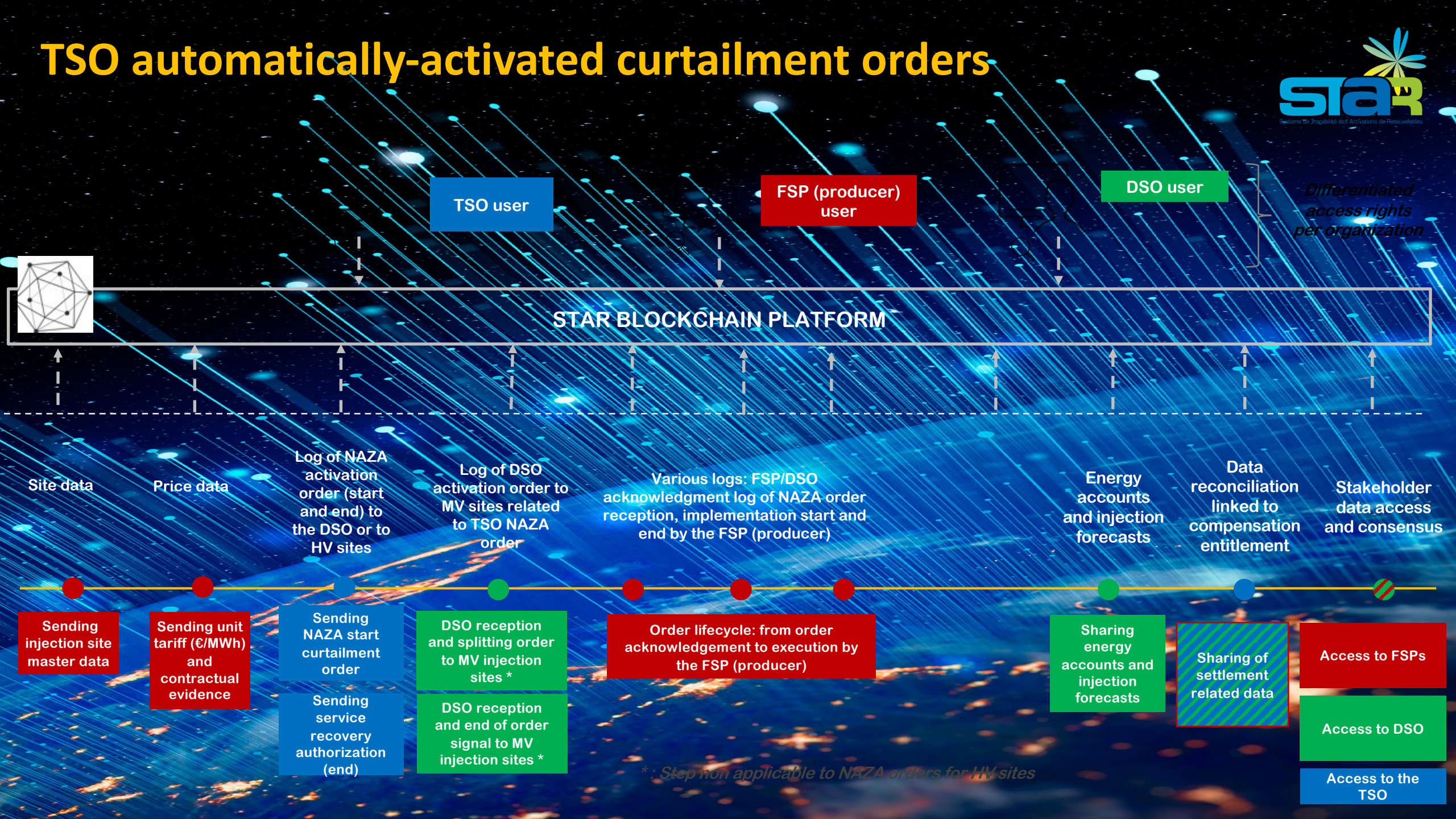
Solar producers

Key aspects :

- TSO and DSO congestion management
- Existing compensation mechanisms
- Blockchain based platform
- Objective : Enhance settlement data traceability and sharing between TSO DSO and producers through a dedicated platform



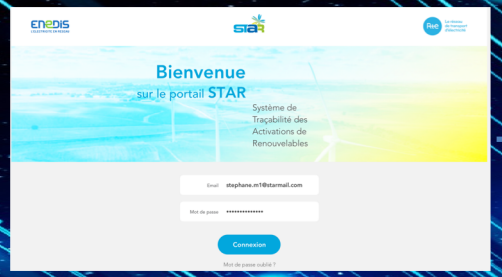
TSO automatically-activated curtailment orders



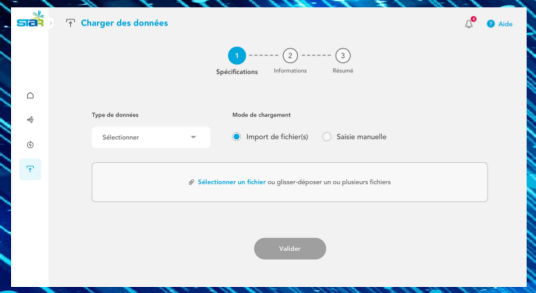
User journey – DSO / TSO

Illustration of a DSO or TSO user journey

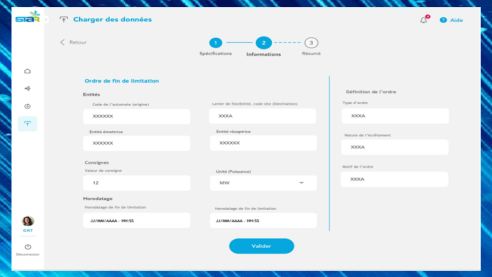
1 - Login to STAR



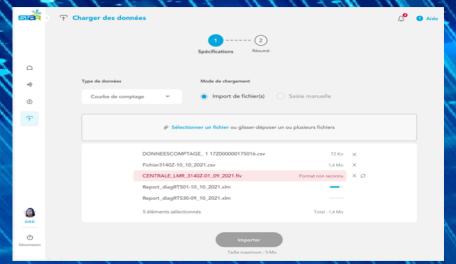
2 - Loading Master Data



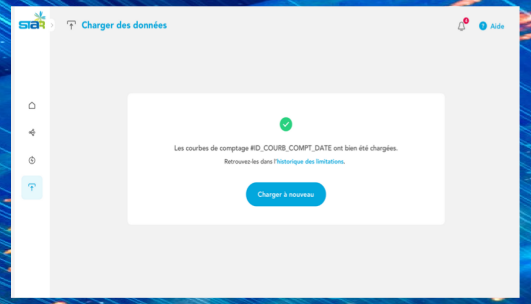
3 - Loading Activation Documents



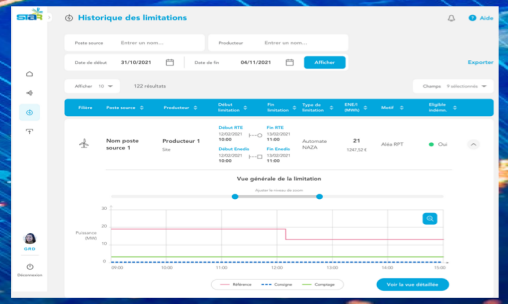
4 - Loading Energy accounts



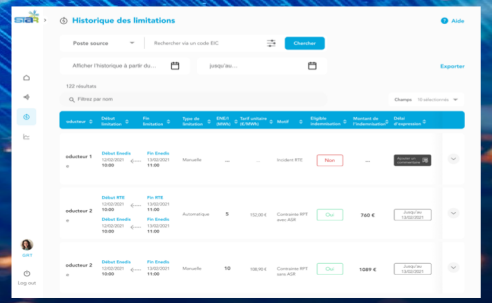
5 – Loading Energy Amount



6 – Reading Activation history, FSP compensation tariff



7 – Data consensus with the FSP



8 – Settlement and end of flow

On operational financial systems, out of STAR. Log can be retrieved in the History of activation UI

Panel Discussion