

TSO DSO collaboration

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The TSO-DSO-platform

- **ENTSO-E, EDSO4SG, Eurelectric, GEODE and CEDEC have grouped their experts**
- **They work together on**
 - Active System Management – although we are already very far with the report and have the Flexibility position paper of the DSO associations
 - Data Management – which will come on the table again after having a report on that. Including (2016 & 2019)
 - Reactive power management (2019)
 - Network planning (2020)
 - Digitalisation of the grid (2020)

Data Management - recommendations

TSO-DSO-platform

1. **Data exchange has to support efficient market functioning**
2. **Focus on services rather than on platforms**
3. **Establish third-party access to data**
4. **Party or Parties responsible for data management must be neutral**
5. **Standardisation of TSO-DSO data exchange is needed**
6. **Use flexibility according to market rules while singling out system risks**
7. **Avoid harmful interferences between congestion management and balancing**
8. **Ensure data access for TSOs related to users connected to the distribution grid**

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Active System Management

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- **Active System Management (ASM) is a key set of strategies and tools performed and used by DSOs and TSOs**
 - for the cost-efficient and secure management of the electricity systems
 - use of smart and digital grids
 - capacity to modulate, in different timeframes and distinct areas
 - generation and demand to tackle challenges impacting system operation
 - ensuring proper integration of Renewable Energy Sources (RES) and a high share of Distributed Energy Resources (DER)
 - integration with energy markets.
- **Need for**
 - Defined processes
 - Information exchange
 - Products, bids and marketplaces

Example: Austrian TSO DSO collaboration

- All 110 kV Substations are controlled by the DSOs
- All voltage levels from 110 kV and below are controlled by the DSOs
- The TSO – DSO interchange is scheduled and measured from the DSO at the 110 kV substations and sent to the TSO
- TSO: frequency control
- DSO: voltage management (reactive power) and limiting the active power flow (current) if necessary

Example: Austrian TSO DSO collaboration

- **Each System Operator acts in its grid on its own responsibility within the bandwidth of the interchange schedules**
- **The TSO-DSO interchange schedule is based on DSO forecasts for the grid load and the generation**
- **System relevant generation units are connected to the TSO grid. Generation schedules and meter values are tele-transmitted to the TSO**
- **TSO can force DSOs to adjust the interchange power at a certain substation**

Example: Austrian Awareness System

- **Due to the variety of information exchanged between the TSO and the DSOs, there is a system established (AAS):**
 - Based on tele-transmitted data (no telephone or internet necessary)
 - Data exchanged between the TSO and all DSOs
 - The grid status of the own grid at certain interesting grid nodes is provided to the other grid operators
 - To let the other party run its power flow calculation
 - To coordinate at the grid restoration situation
 - To inform the other with a kind of traffic light signals about the own situation