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***"Smart Grids development towards 2020 and beyond"***

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## ***"Smart Grids development towards 2020 and beyond": challenges for DSOs***

- **DSOs are at the center of the on-going changes**
  - **Decentralized generation**
    - Ensure safety
    - Safeguard the safe operation of the system
    - Maintain voltage within the specified ranges and avoid overloads
  - **Active demand**
  - **Electric vehicle**

## ***"Smart Grids development towards 2020 and beyond": challenges for DSOs***

- **Smart meters : a major component of smart grids**
  - Access to information: energy savings and reduction in peak demand
  - Reliable and swift change of supplier
- **Significant modernization of grid management**
  - Planning
  - Analysis of the quality of power supply
  - Maintenance of network components
  - Fault location
  - MV and LV networks control and operation

## ***"Smart Grids development towards 2020 and beyond": challenges for DSOs***

- **Smart grids: towards active local system management by DSOs**
  - DSO as market facilitators responsible for setting up the playing field
  - **Balancing of local demand and supply, integrating the management of congestions on distribution networks:**
    - Increased observability of networks
    - Forecast of demand, supply and power flows – network security analysis – optimization of voltage profiles
    - Certification, activation and validation of flexibilities
  - **Benefits :**
    - Significant reduction of the investments needed to host renewable and EV
    - Security and quality of supply
  - **Interface between TSOs and DSOs : high priority issue**
- **DSOs are responsible for power quality!**