Forecasts for Reliable Energy Systems

Digitalization, automation and the usage of intelligent algorithms are becoming increasingly important factors for success in the energy industry. This is particularly true for the integration of renewable energies (RE), for which precise and reliable forecasts of the expected energy production and consumption are indispensable. This can increase efficiency, minimize risks, and save costs.

Our real-time power estimates and forecasts are the centerpiece of innovative solutions for reliable grid operation and planning with weather-dependent energy sources.

Get to know our portfolio and let us support you to achieve your goals. As a reliable and innovative partner, we are always prepared to support you.

Forecasts for a Reliable Energy System

Technical Informations at a Glance

Forecasts to optimize your market integration process and for safe grid operation

**Solar Power Forecast**
- Roof-mounted systems, parks, portfolios
- Grid regions and nodes
- Marketing
- Self consumption

**Wind Power Forecast**
- Feed-in forecasts for parks, grid nodes and regions
- Optimal marketing
- Efficient grid operations

**Solar Power Forecast**

**Hydropower Forecast**
- Run-of-river plants and dams
- Modelling of individual power plants
- Total regional electricity production

**Online Estimation**
- Wind and photovoltaics
- Power and weather measurements, grid areas, grid nodes, portfolios

Current generation of wind power and photovoltaic plants at substations and in grid areas for the safe operation of your grid or to fulfill your information obligations.
Forecasts of the load flows on transformers or substations between peak, high, medium and low voltage.

**Power Flow Forecast**
- Vertical and horizontal power flows
- Generation and load shares

**Dynamic Line Rating**
- Monitoring and forecasting ampacity
- Identification of hot-spots at overhead lines
- Design of specially meteorological measurement stations
- Reducing redispatch and curtailment

Optimized monitoring and forecasting of continuous current carrying capacity to increase network utilization and reduce redispatch or EinsMan activities.

**Cogeneration Forecast**
- Generation of heat and electricity
- Optimization of resources
- Profit maximization

Forecasting the production of your CHP plants for heat and electricity to optimise your use of resources.

**Consumption Forecast**
- Electricity, heating, cooling, water
- Households, industry, grid nodes
- Resource planning

Electricity, heating/cooling and water consumption in households, small to large companies and supply grids to reduce consumption and costs.
Forecasts and Online Estimation for intelligent Markets and Grids

**WE OFFER YOU**

- Research and development services
- Customized forecasts
- Real-time monitoring
- Analyses and studies
- Independent consulting

**OUR SOLUTIONS**

- Forecasts of the expected renewable energies (RE) generation in the next few minutes up to days
- Estimates of the energy generation from spatially distributed renewable energy plants
- Forecasts of the expected electricity, heating/cooling, and water consumption by households, enterprises, and utility networks
- Dynamic methods for the determination and prediction of the possible ampacity of overhead conductors, considering external weather conditions
- Forecasts of the expected power flows within (horizontal) and between (vertical) the different voltage levels in the grid
- Consulting and project planning based on state-of-the-art methods from science and research on the characterization and mapping of energy-meteorology relationships

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