





PROVIDING GRID STABILITY



INTEGRATING VOLATILE RENEWABLE ENERGY INTO THE GRID



OPTIMISING TRANSFER CAPACITY BY OVERHEAD LINE MONITORING



TRADING RENEWABLE ENERGY WITHIN THE GERMAN RENEWABLE ENERGIES ACT



SCHEDULING SAFE MAINTENANCE AND SERVICE OPERATIONS



TAKING INCREASE IN RENEWABLE ENERGY INTO CONSIDERATION IN THE GRID DEVELOPMENT PLAN

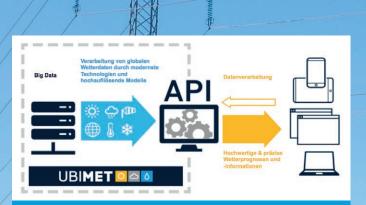


PREDICTIVE
MAINTENANCE &
VALIDATING DAMAGE
CAUSED BY FORCE
MAJEURE



RENEWABLE ENERGY

- Highly-precise wind, solar and hydropower forecasts
- Unique feed-in management solutions
- Time series for long-term comparison of wind & solar feed



WEATHER DATA

- High resolution weather analysis in real time (HYDRA) via UBI:Connect Weather-API
- Own, highly precise short-term weather model (RACE)
- Weather forecasts for transformation substations, power lines and grid regions
- Highly precise lightning detection system powered by nowcast
- Historical global measurements and climate time series
- Long-term energy meteorological re-analysis data
- Current measurements, satellite & radar images



OLUTIONS



WEATHER COCKPIT®

- Highly flexible online presentation of weather information
- Live weather data (satellite and radar images, lightning, station data)
- Weather forecasts for transformation substations, power lines and grid regions
- Real-time weather analysis and model forecasts
- Renewable energy and feed-in management forecasts
- Uniform and proactive warning and alert system
- Customer specific visualisations (e.g. power lines, transformer substations)

YOUR BENEFITS

- Grid stability more safety with precise and reliable weather data
- Transmission capacity optimizing with weather-data based overhead line monitoring
- Preventing power failure with pinpoint (severe) weather information
- Plausibility checks for overload damage with highly precise lightning detection system
- Marketing in compliance with the German Renewable Energies Act (EEG) optimizing EEG allocation account with improved performance forecasts
- Optimising 0&M with user-friendly data presentation in our Weather Cockpit®
- Grid development plan: optimum planning with comparable long-term time series
- Improved planning of maintenance operations as well as reducing power outages with predictive maintenance
- Precise and quick damage plausibility checks with meteorological expert reports

SEVERE WEATHER WARNINGS & ALERTS

- Our own severe weather centre will keep you informed 24 hours a day, 365 days a year
- Warnings
 - provided by experienced severe weather meteorologists
 - with individual threshold values
 - for gales, freezing rain, thunderstorms, heavy rain, snowfall
- EC-warnings for power grid operators
 - · Hurricanes, freezing rain, wet snow
- Special warnings for distribution grid operators
 - wind breakage risk index, icing risk index
- ISO-certified data transmission via e-mail, SMS and Weather Cockpit®



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ABOUT UBIMET

UBIMET is the leading weather service provider of the energy industry and one-stop shop for high-quality data, a proprietary lightning detection network, weather alerts and tailor-made meteorological solutions. The founder-led company with offices on three continents stands for reliable, highly precise weather information and digital information services for weather-dependent companies.

As a global innovation leader, top insurers and energy providers, infrastructure operators, media and sports companies to champions of the new economy place their trust in us. UBIMET offers high-quality meteorological data, forecasts and warnings which enable weather dependent industries around the globe to increase safety and efficiency.

www.ubimet.com

To accommodate the high demands of the energy industry, UBIMET offers:

INDUSTRY-SPECIFIC KNOW-HOW

- A center of excellence with 20 experts focused entirely on the energy sector in Karlsruhe
- · 15 years of energy industry know-how and expertise
- R&D spending of 25% of annual revenue on international research projects in the areas of energy & mobility, smart cities as well as disaster management

HIGH PRECISION METEOROLOGY

- One of the world's largest weather data bases (weather stations, satellites, radar, proprietary lightning detection network)
- Access to the world's leading global weather models (including ECMWF and GFS)
- Self-developed, high resolution weather-analytical tool HYDRA (resolution up to 100 m)*
- Self-developed, high resolution local weather model RACE (resolution up to 100 m)
- In-house 24/7 severe weather center with experienced meteorologists
- · Highly precise wind and solar power production forecasts
- Protected method for feed-in management (EinsMan) and volume forecasts**

LEADING EDGE IT INFRASTRUCTURE

- Four global data centers processing more than 90 TB of data per day (Big Data)
- Intuitive and state-of-the-art platform solutions with our Weather Cockpit®
- Full integration of weather data into customer IT systems via secure data transmission, sFTP-Server and cutting-edge API solutions
- * The invention, on which our solutions is based, has been registered for patent (European patent application No. 17450001.7 as well as US Patent Application No. 15/860.189) by UBIMET.
- ** The invention was protected as utility model (DE 20 2017 100 343.4) and has been filed for patent (DE 10 2017 101 265.6, European patent application No. 18152474.5 as well as US patent application No. 15/879,326) by UBIMET. The invention was protected as utility model (DE 20 2017 100 343.4) and has been filed for patent (DE 10 2017 101 265.6, European patent application No. 18152474.5 as well as US patent application No. 15/879,326) by UBIMET.

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