# TECHNICAL OPERATION MANAGEMENT

Professional operation of your PV system for maximum yield security

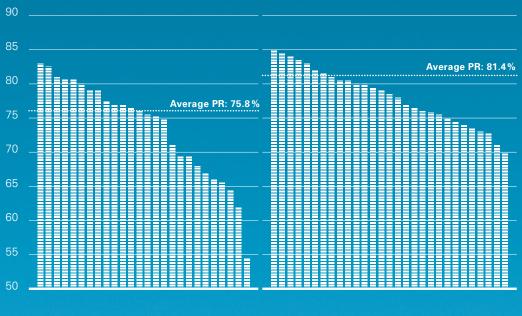




# SECURE THE FULL POTENTIAL OF YOUR PV SYSTEM

Optimum maintenance and minimum response times with faults are the most important requirements for the efficient operation of your PV system. This is why meteocontrol assumes responsibility for the professional operation of your system and ensures that failures and faults are identified immediately. We ensure you a guaranteed response time here, and provide you with your own personal contact partner.

# WITHOUT CONTINUOUS QUALITY ASSURANCE THE AVERAGE MINIMUM YIELD IS APPROX. 6%.



System operation\* without remote monitoring

System operation\* with continuous quality assurance

<sup>\*</sup> Systems with crystalline modules in Germany, operating year – 2010

# SERVICE PACKAGES FOR YOUR PLANNING SECURITY

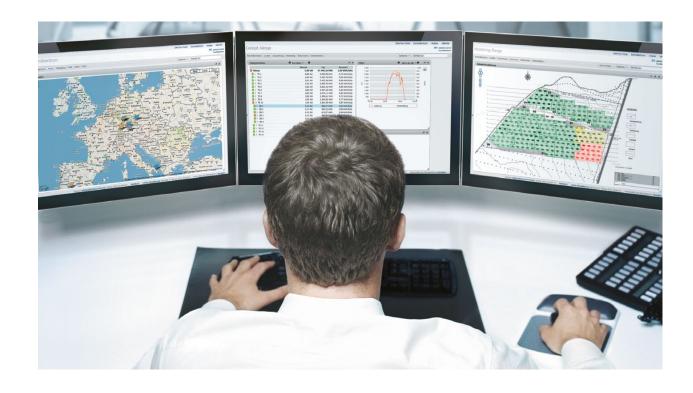
Your system's efficiency is guaranteed with comprehensive professional support

## PROFESSIONAL REMOTE MONITORING IS THE FOUNDATION OF YOUR SUCCESS

meteocontrol records all of your PV system's performance data, providing the foundation for professional remote monitoring through the safer'Sun portal. The web portal collects all key performance indicators and relevant yield values, in one globally accessible central location. Actual yields are automatically compared with simulated values, which are calculated specifically for your PV system using of highly precise meteorological data. This real-time comparison immediately triggers alarms for any issues lowering system production. meteocontrol's industry-leading solution has already proven its high value in over 30,000 systems representing more than 6.5 GWp in total capacity.

#### COMPREHENSIVE ALARM MANAGEMENT TO REALIZE FAST FAULT CORRECTION

Total alarm management for fast fault detection and removal meteocontrol assumes responsibility for monitoring production losses and for removing fault conditions. A maximum response time after alarm receipt is guaranteed – times vary by contract. Fault removal is either made online or with appropriate service staff, depending on the specific problem. meteocontrol informs you immediately about the fault reporting and documents all maintenance and repair work – maximizing transparency and traceability at all times. A dedicated technical contact is available for you 7 days a week.



## TECHNICAL INSPECTIONS FOR SMOOTH SYSTEM OPERATION

Shade from plants and module soiling can reduce your yield by up to 20 %. meteocontrol therefore provides regular visual inspections, combined with any required landscape maintenance and module cleaning. Maintenance and technical inspections supplement the on-site service offering: system security is checked, parameters are measured, inverter preventive maintenance is performed and minor defects are rectified immediately. meteocontrol then compiles a report on the measures required to optimize your PV system's output.

#### COMPLETE REPORTING

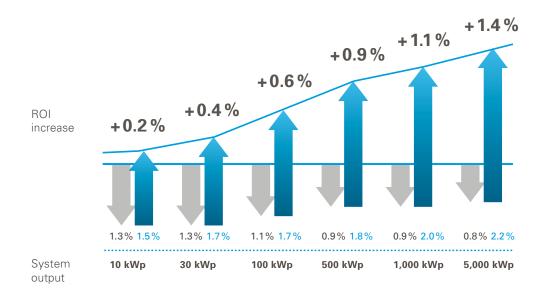
meteocontrol generates regular reports on system status and yield, so you constantly have your system's performance in focus. Your system data is transparently archived in a historical file. This allows you to evaluate all key technical and operational data at any time. Analyses can be run and graphically illustrated on the basis of individual factors. The measured data of several systems in one park can then be viewed together to directly compare individual factors, such as components or location.



#### SCOPE OF SERVICE

Product	Basic	Profi	Premium
<ul> <li>System monitoring configuration in the safer'Sun portal</li> </ul>	•	•	•
<ul> <li>Remote monitoring 365 days a year,</li> <li>24 hours a day (*for PV systems smaller than 1 MWp: Monday to Friday)</li> </ul>	*	*	•
– System reports (monthly, quarterly, annually)		•	
- System history file			
- On-site service coordination and organization		•	
– Regular visual inspection		Half-yearly	Monthly
– Technical inspection		Annually	Annually
– Annual maintenance			
- Annual performance check			
<ul> <li>Technical system acceptance before initial operation</li> </ul>			
- Cleaning, landscape maintenance			
- Service costs included			
– Yield guarantee			Optional
– Financial operation management			Optional
	1		

#### ROI INCREASE WITH TECHNICAL OPERATION MANAGEMENT



#### MAXIMUM PLANNING SECURITY

With a combination of innovative solutions and perfect service you achieve your maximize your PV system's output and availability.

meteocontrol also offers you an optional flatrate repair program, so that you can calculate both your yields and your long-term operational costs.

All the usual field service and repair work is covered with a flat monthly rate. You consequently ensure that unforeseen issues do not endanger your financial objectives.



As a leading solar energy specialist, meteocontrol has provided independent consultancy services for solar project implementation for more than 30 years now.

meteocontrol is the market leader in professional remote monitoring on photovoltaic systems with a total output in excess of 6.5 GWp. The know-how this requires, combined with an exceptional metrological database, ensures the highest possible precision across all project phases: from the compilation of yield reports, technical due diligence and quality assurance in the construction phase, right through to system monitoring and technical operation management.