



Operation

# Ensuring reliable operation. Making energy available.

Safety engineering, inspection, and operations management for renewable energy.


[enertrag.com/operation](http://enertrag.com/operation)


# Our Locations.


We provide reliable care for your energy systems throughout Germany and beyond—including in France and Poland, and in other countries upon request.


 Dauerthal  
Gut Dauerthal  
17291 Dauerthal


 Neuville (F)  
9 mail Gay Lussac  
95000 Neuville sur

 Katowice (P)  
Ul. Ligocka 103  
40-568 Katowice


 Berlin  
Rosenthaler Straße 30  
10178 Berlin

 Oise Dury (F)  
26 Route d'Amiens  
80480 Dury

 Edemissen  
Roth Acker 3  
31234 Edemissen

 Hamburg  
Trostbrücke 1  
20457 Hamburg



 We are accredited by DAkkS at the following locations:  
Dauerthal and Edemissen



ENERTRAG Betrieb GmbH is a Type C inspection body accredited by the German Accreditation Body (DAkkS) in accordance with DIN EN ISO/IEC 17020:2012 for the scope specified in the certificate annex D-IS-18273-01-00.

# Our values.



“Today, operators of renewable energy plants bear more responsibility than ever before. Reliability, safety, and cost-effectiveness must be demonstrated on a daily basis. This requires more than just technology. It requires partners who truly understand operations, who take responsibility, and who know the plants like the back of their hand. That is exactly what we strive for at ENERTRAG.”

**Dr. Anne Bendzulla**

Executive Board Member for Implementation and Digitalization, ENERTRAG SE



“A reliable energy supply doesn’t just happen on its own. Our team, whether in the office or right on site at the facilities, contributes to this every day. Digital solutions, clear processes, and years of industry experience form the foundation for this. Only those who combine all three can manage operations safely and economically in an increasingly complex market.”

**Michael Dahm**

Managing Director, ENERTRAG Operation



# Generation alone is not enough.

Operation is what matters.



**As the amount of electricity generated from wind and solar power increases, so do the demands on availability, safety, and documentation. Storage systems, grid infrastructure, and electrolysis must be reliably integrated.**

ENERTRAG Operation handles day-to-day operations in a planned, safe, and cost-effective manner. We combine technology, safety, and cost-effectiveness in the day-to-day operation of the facilities. Working closely with the customer, our technical operations team navigates the regulatory landscape and finds solutions.

**Because only energy that meets demand is valuable energy.**

For many years, ENERTRAG Operation has been optimizing the individual components of the ENERTRAG Verbundkraftwerk® and brings over 30 years of experience to operational management. We approach operations from a practical perspective, independent of manufacturers and open to all technologies. We minimize risks, increase availability, and boost efficiency. Not merely as a service provider, but as a partner who takes responsibility. We manage one of the largest combined power plants in Germany. Our inspection teams are on-site. Only through the synergy of digitalization, efficient processes, and on-site expertise at the renewable power plant can a secure energy supply based on 100 percent renewable energy be achieved.

# At a Glance.



Founded in  
**1992**



locations with in-house staff:  
Dauerthal, Hamburg, Edemissen,  
Dury, Neuville, Katowice.



**150**  
employees

**Accredited**

to DIN EN ISO IEC 17020:2012



**Certified**

to DIN EN ISO  
9001:2015



**Services**

Inspection,  
safety engineering,  
operations management



**900**

LPS inspections  
conducted  
using drones



**>1.300/  
3 GW**

of monitored  
facilities

**6,500**

inspections  
per year



**2,000**

drone inspections  
conducted



**Focus**

on integrated  
energy systems

# Keeping track of deadlines.

**At least 55 mandatory inspections required during the design life of a wind turbine. From commissioning inspections to technical inspections and electrical inspections, as well as grid protection, access platforms, and pressure vessels: the inspection schedule is packed. The responsibility for this lies with the operator.**



Three teams at ENERTRAG Operation make this responsibility manageable.

Operations management coordinates all schedules and keeps track of all deadlines. Together with plant operators, we navigate through schedules and deadlines. Our control center monitors the plants around the clock, even remotely.

The inspection department conducts independent and accredited inspections. Foundation, tower, nacelle, gearbox, rotor blades, electrical systems: Our inspection reports are recognized by authorities and insurance companies. Inspected once, accepted everywhere.

Safety engineering ensures the safety of all safety-relevant systems. Service lifts, crane systems, ladders, and pressure vessels are inspected according to manufacturer specifications and DGUV guidelines and repaired as needed.

**The result:**

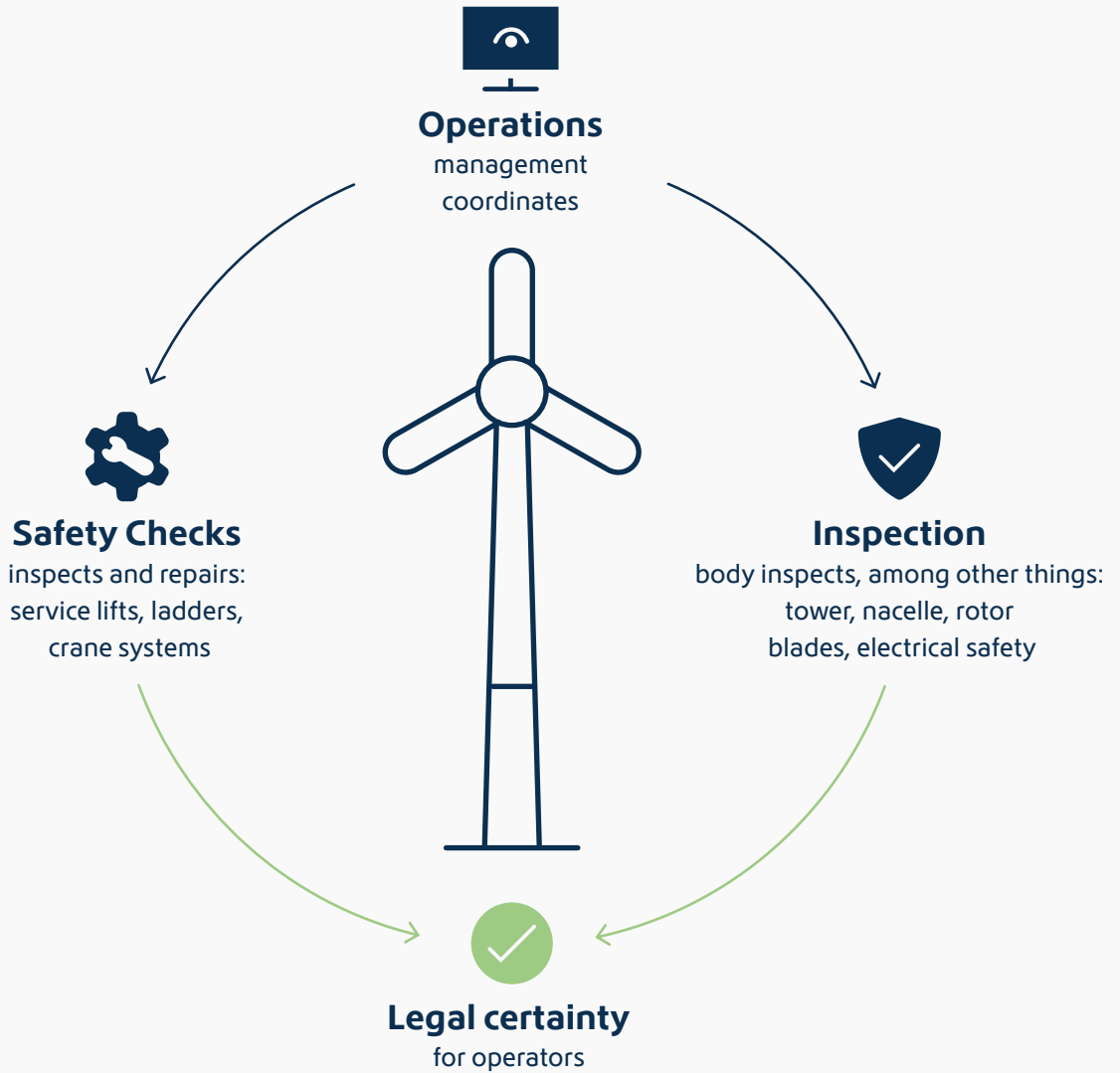
legal certainty. Operators receive documentation compliant with standards, a clear basis for decision-making, and no missed deadlines.

**This integrated approach applies to all technologies:**

wind turbines, photovoltaic systems, battery storage, substations, and electrolyzers.

# 55 inspections.

Throughout the design life of a wind turbine.



"Reliability, expertise, and fast response times—that's exactly what we value in our collaboration with ENERTRAG Operation."

Anastasiia Kremer  
Deputy Head of Asset Management

Recurring inspections of wind turbines





# Clearly structured. Modular in use.



## Operations Management

We provide technical and commercial operations management for wind turbines, photovoltaic systems, battery storage systems, electrolysers, and substations. Our control rooms monitor your facilities around the clock, 24 hours a day, seven days a week.



## Inspections

As an accredited inspection body, we conduct independent inspections: post-commissioning inspection, pre-warranty expiration inspection, periodic inspections, continued operation inspections, electrical inspections, rotor blade inspections via rope access and drone with lightning protection measurement, gearbox and tower inspections.



## Safety Engineering

We perform safety inspections in accordance with manufacturer specifications and electrical inspection guidelines. Crane systems, ladders and fall protection systems, service lifts including winches and safety catches, ZÜS inspections for service lifts, pressure accumulators and pressure vessels, repair campaigns for safety-related components.

**Everything from a single source,  
tailored to your facilities. Commercial  
management in collaboration with  
experienced partners.**

# POWERSYSTEM

Powersystem is our operations management software, supported by a large development team and managing over 7 GW of connected capacity. The software is certified to ISO 9001 and ISO/IEC 27001 and is KRITIS-compliant.



## Analyze

We assess the technical condition of your facility and identify risks and opportunities.



## Monitoring

Our control centers in Dauerthal and Dury monitor your plants around the clock. We detect anomalies early on, and 95 percent of all incidents are resolved within minutes.



## Intervening and optimizing

We resolve issues quickly and effectively, remotely or on-site, either by our team or our service partner. We document everything transparently in the Powersystem operations management software.



## Reporting and Development

Transparent reports provide a reliable basis for decision-making. Available live and flexibly in the operations management software, and monthly or annually as performance reports with clear key metrics.

**Digitally connected, effective on-site, and reliable in results.**



# Smartly connected.



**“We value the excellent collaboration with the technical operations team at the WiValdi Wind Energy Research Park.”**

**Dr. Jakob Klassen**  
Overall Project Manager,  
German Aerospace Center (DLR)

**At the heart of our operations management are the control centers in Dauerthal and Dury. Here, our team continuously monitors wind turbines and solar power plants, 24 hours a day, seven days a week. We detect anomalies early, minimize downtime, and reduce yield losses. Operators benefit from transparent operations management, clear key performance indicators, and continuous optimization of availability.**

**In close collaboration with the ENERTRAG Grid Department team.**

Battery storage systems, electrolyzers, and substations are key components of modern energy systems. Their operation requires care, precise monitoring, and clear lines of responsibility. Due to the increasing market penetration of photovoltaics and wind energy, we expect a significant increase in storage projects.

ENERTRAG Operation takes over the operational management of these infrastructures. This includes monitoring relevant parameters, coordinating tasks, performing preventive and corrective maintenance, switching operations, conducting safety tests, and maintaining documentation. This is how we ensure stability, flexibility, and cost-effectiveness.

#### **Services at a Glance**

- Monitoring of battery storage systems and electrolyzers.
- Switching operations and protective device testing at substations.
- Preventive maintenance and fault management.
- Standard-compliant documentation.



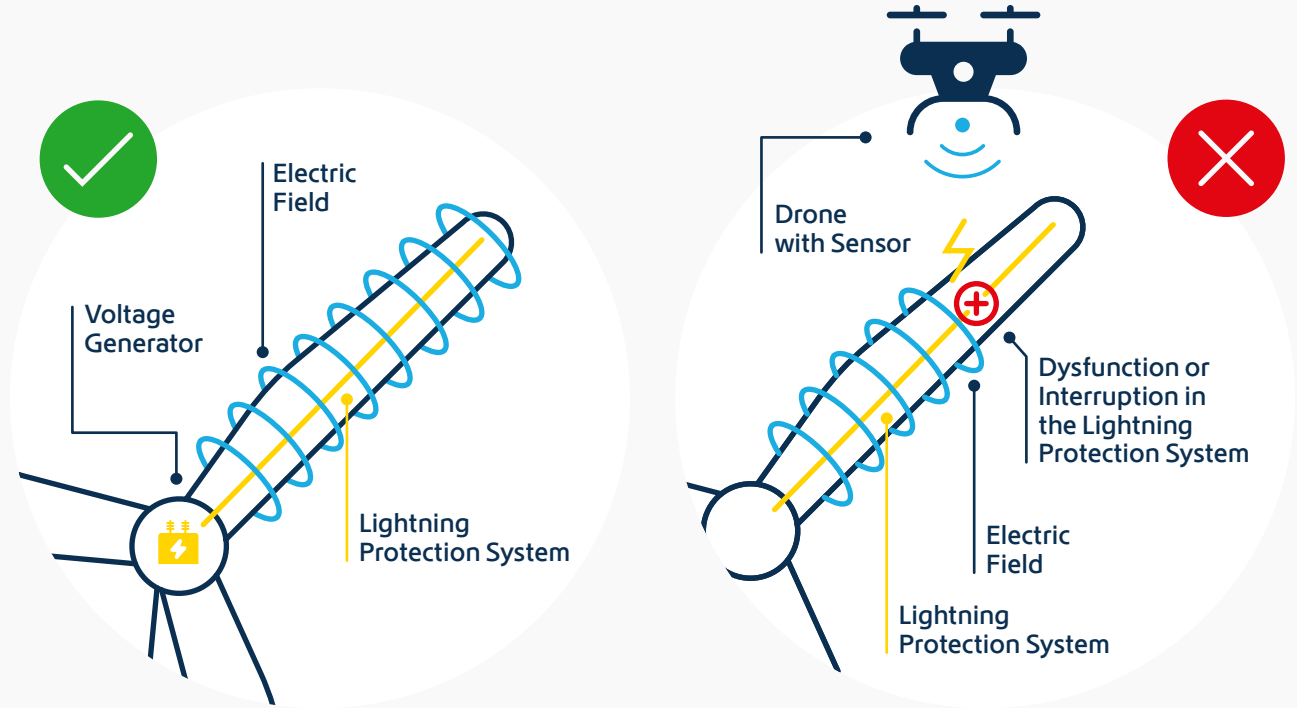
# Drone Inspection.

Precise, Safe, Efficient.

**Modern wind turbines require modern inspection methods. Using specialized drones, we conduct rotor blade and tower inspections more safely, quickly, and accurately than with conventional methods.**

High-resolution image data enables a precise assessment of the turbine's condition. Lightning protection testing is performed under realistic conditions using a potential-free voltage of 6 kV. A reliable energy supply requires plants that are operational. Our drone-based lightning protection testing checks the discharge path with 6,000 volts, just as a real lightning strike would. The result: more precise results, shorter downtime, and greater planning reliability for operators.

## Best Practice



Learn more here:



The drone technology for wind turbines has been validated by TÜV Nord.

The process is field-tested, TÜV-validated, and recognized by insurers and authorities. It is also available as a licensing model for other service companies, both onshore and offshore.

We also use drone technology in PV parks for thermographic measurements or construction monitoring, enabling quick and cost-effective decisions for our customers.



“ENERTRAG Operation has been our technical operations manager from the very beginning, and we work very well together—it’s a highly reliable partnership. We want to drive the energy transition forward. That’s why using drones to inspect rotor blades is an innovative technology that we’re happy to employ.”

**Stefan Babis**  
Managing Director, Stadtwerke Buxtehude

# Our accredited inspection body

Legal certainty for operators.



ENERTRAG Operation is an accredited inspection body in accordance with DIN EN ISO/IEC 17020:2012. This means that every inspection follows verified standards and provides operators with legally compliant, reliable results. Impartiality is not merely a promise, but a practice we uphold.

In addition, we do electrical inspections for wind turbines, solar farms, and transfer stations. Operators and plant managers receive documentation that complies with standards, legal certainty, and a reliable basis for decision-making.

#### Our services:

- Inspection following the commissioning of a wind turbine
- Periodic inspection of wind turbines
- Inspection for condition-based maintenance of wind turbines
- Rotor blade inspection
- Offline vibration measurement
- Gearbox inspection
- Lubricant inspection
- Inspection for continued operation 20+ of wind turbines—practical and analytical components
- Electrical inspection (low and medium voltage, protective device inspection)
- Site inspection of renewable energy facilities for safety compliance
- Preparation of risk assessments
- Review of deviations (damage assessment)
- Technical due diligence



Document Repository  
DAkKS

# Safety Engineering.

## The Foundation for Safe Operation.

Because safety is the top priority when working on wind turbines, you need a reliable partner for safety equipment. We are trained to inspect and repair equipment from all major lift and winch manufacturers. We offer one-stop inspection and repair services for your systems, guaranteed on time and in accordance with OEM standards. Hydraulic systems and safety-critical components are subjected to high stress. Without regular inspections, there is a risk of failures, damage, and downtime. ENERTRAG Operation performs mandatory safety inspections for operators and maintenance companies (OEMs).

### Our Safety Services

- Safety inspections according to manufacturer specifications and electrical inspection guidelines
- Crane systems, access ladders, fall protection systems
- Service lifts including winches and safety catches
- ZÜS inspections for service lifts and elevators
- Pressure accumulators and pressure vessels
- Repair campaigns for safety-related components
- Inspection of rescue equipment and PPE
- Replacement of fire extinguishers



**“We definitely appreciate the flexibility and reliability of our collaboration; scheduling in particular always works very well.”**

**Joel Speckmeier**  
Renewable Energy Division,  
RheinEnergie AG

## Certification

ENERTRAG Betrieb GmbH is certified to ISO 9001:2015 and, at specific locations, accredited to DIN EN ISO/IEC 17020:2012. Our inspections and processes are transparent, traceable, and recognized by regulatory authorities and insurance companies.



## Let's talk about your operations.

Whether it's a single plant or a complex energy system, in Germany, France, Poland, and other countries, ENERTRAG Operation ensures compliant and cost-effective operation. Let's discuss your requirements.

### **ENERTRAG Operation**

Gut Dauerthal  
17291 Dauerthal  
Germany

T +49 39854 6459 0  
betrieb@enertrag.com  
[enertrag.com/operation](http://enertrag.com/operation)