DANOVO
ENERGY SOLUTIONS
A QUANTA SERVICES COMPANY

UNLOCKING ACTIONABLE INSIGHTS TO STRENGTHEN PERFORMANCE

MONITORING AND DIAGNOSTICS STRATEGY

Utilities today face increasing demands for reliability, efficiency, and resilience. Monitoring and diagnostic solutions provide the tools to anticipate issues, improve asset performance, and support informed decision-making. We partner with utilities to develop tailored strategies that maximize value while reducing operational risks.

WHY MONITORING AND DIAGNOSTICS MATTER

A strong monitoring and diagnostics strategy transforms data into actionable insights.

1 **Reliability and safety**
Identifies issues before they cause outages or hazards.

2 **Affordability**
Targets investments where they matter most.

3 **Resilience**
Withstands N-1, N-2, and higher contingencies.

4 **Regulatory confidence**
Demonstrates proactive risk management.

QUESTIONS UTILITIES FACE

Which parameters must be monitored?

How frequently should monitoring occur?

How much data is truly enough?

Which parameters are most meaningful for each asset?

How do vendor products work together for a holistic view?

A PROVEN FRAMEWORK

Criticality assessment

Rank assets by probability x consequence of failure

Monitoring levels

- **Level 1** -- basic: periodic inspection and SCADA checks
- **Level 2** -- enhanced: online sensors for key risks
- **Level 3** -- advanced: continuous online diagnostics and analytics

Asset-specific solutions

- **Transformers:** dissolved gas analysis, bushing PD, thermal sensors
- **Circuit breakers:** SF_6 pressure, timing, contact wear
- **Batteries:** voltage, impedance, state of health
- **Lines:** dynamic ratings, vegetation monitoring, drone/AI inspections

Vendor strategy

- Best-in-class offering
- Interoperable
- Unified analytics

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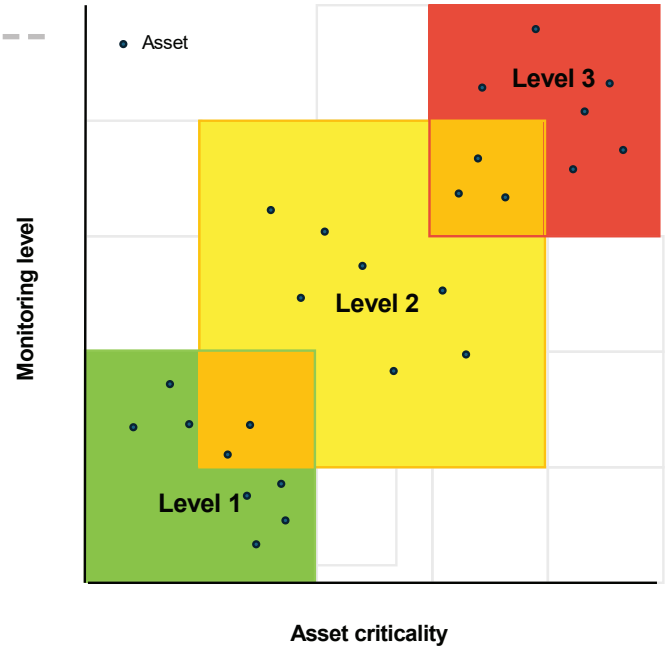
THE END GOAL

A holistic strategy that turns scattered sensor data into actionable insights for:

- Maintenance planning
- Risk prioritization
- Capital allocation
- Outage prevention

To achieve these benefits, utilties should follow a structured approach that ensures monitoring and diagnostics provide maximum value:

1. **Assess** criticality of grid assets.
2. **Select** monitoring levels aligned with budget and risk tolerance.
3. **Navigate** the vendor landscape to choose best-fit solutions.
4. **Integrate** data streams into a single source of truth.



WHY CHOOSE DANOVO ENERGY SOLUTIONS?

We help utilities modernize with confidence. From defining strategy to deploying advanced monitoring and diagnostic solutions, we provide the expertise to achieve long-term value. Improve reliability, reduce costs, and make sense of monitoring vendors. Contact us today to learn how we can help you build a stronger, more resilient grid.

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