

## Press Release

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### **Ready for the Long Game with Bachmann Structural Health Monitoring**

**Rudolstadt, Germany – April 24, 2023**

When it comes to increasingly ambitious global climate goals, offshore wind operators and energy suppliers are facing enormous challenges. In addition to the 70 GW of new installations required annually, existing turbines must also operate as long as possible in order to secure long-term energy supplies and make optimum use of existing resources. As the basis for optimized maintenance, Structural Health Monitoring (SHM) has a decisive role to play.

SHM from Bachmann electronic GmbH monitors parameters such as structural resonances, fatigue, and environmental conditions to deliver valuable information about turbine aging and deterioration. This can be used to extend the operational lifetime of installations, identify structural abnormalities, dramatically reduce the Levelized Cost of Energy (LCOE), and maximize wind farm profitability.

The modular SHM from Bachmann provides complete hardware and software solutions, including 3rd party hardware, to facilitate compliance with all relevant offshore requirements, including the German Federal Maritime and Hydrographic Agency (BSH), minimizing the risk of failure and maximizing operational safety.

Round-the-clock data collection, and subsequent analysis by Bachmann's Remote Monitoring Service or by the wind farm engineering team, provides advance warning of impending structural damage. This warning system facilitates faster responses and preventative actions. Planned, predictive maintenance at safe and suitable times reduces OPEX and minimizes downtime. Tailored project engineering & SHM system design is also part of the Bachmann service.

Bachmann continuous monitoring of structural fatigue and damage status supports the extension of operating permits. If SHM data proves that site-specific loads are lower than design load assumptions, then installation lifetimes can be extended and turbines remain in service for significantly longer. Furthermore, based on SHM data, operators can identify high-risk operating conditions and minimize structural damage by reducing or avoiding operation during such conditions.

- All data is automatically generated and can be utilized for an effective project assessment.
- An SHM retrofit also extends the operating lifetimes of legacy turbines, increasing the profitability of the entire installation.
- SHM data can be used to optimize the design of future turbines by strengthening areas that are exposed to high loads and avoiding critical operating conditions.



“Offshore Structural Health Monitoring from Bachmann, part of our holistic Condition Monitoring solutions package, delivers exactly the long-term security, operational optimization and lifetime extension that appeals to both investors and operators alike.” Holger Fritsch, General Manager, Bachmann Monitoring GmbH.

**For more information, please visit:**

<https://www.bachmann.info/en/campus/performance/innovation/structural-health-monitoring>

**Bachmann electronic GmbH**

<https://www.bachmann.info/en/bachmann/>

**About Bachmann – The Power to Control**

Automation, Grid Measurement and Protection, Visualization and Condition Monitoring for plants and machines: this is the core competence and the future of the Bachmann world. Headquartered in Feldkirch, Austria, we are an international and rapidly expanding organization with over 500 employees worldwide. We have been developing unique automation and system solutions for our customers on a global scale for over 50 years.

As the global market leader in wind energy automation systems, Bachmann technology can be found in over 140,000 turbines worldwide. Our highly available and durable solutions are designed to withstand the toughest conditions, minimizing both capital and operational expenditure. Robustness and reliability – Bachmann solutions embody these characteristics, and we therefore perform 100% testing on every single module, including a 48h run-in test. Competence in wind energy - that's what Bachmann represents.

Bachmann Monitoring GmbH is a 100% subsidiary of Bachmann electronic GmbH and the competence center for Condition Monitoring within the Bachmann Group. Based in Rudolstadt, Germany, we offer fully certified solutions for Condition and Structural Health Monitoring - from hardware and software, remote monitoring, reporting and service, to accredited training and development.

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