

Press Release

Voith GmbH
Global Market Communication
St. Pöltener Str. 43
89522 Heidenheim, Germany
Tel. +49 7321 37-2749
Fax +49 7321 37-132749
www.voith.com

Smart Seal Wear Monitoring system from Voith reduces machine downtimes and improves efficiency

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- **Extends suction roll service life**
- **Improved scheduling of roll changes**
- **Reduced risk of breakdown thanks to Papermaking 4.0 solution**

Heidenheim, Germany: Voith has developed a ‘Seal Wear Monitoring’ system which will make sealing strip replacement easier to plan in future. Used for the first time at Swiss company Model, it helps minimize unscheduled downtimes due to roll failure or sealing strip wear or defects. The technology is one of Voith’s innovations from its Papermaking 4.0 range and enables paper producers to also take a significant step towards ‘smart factory’ conversion.

Marc Erkelenz explains how the smart monitoring of the sealing strip works: “Our product automatically informs the client by email when a defined wear level has been reached and also predicts the residual service life.” Erkelenz is responsible for developing new products for roll service at Voith and has lead the Seal Wear Monitoring project.

The system installed in the pick-up roll continuously monitors the sealing strip wear and predicts a replacement date based on the data obtained. Following a second wear indication conducted subsequently for validation purposes, the system automatically adjusts this date if necessary. Fully automatically, and with sufficient notice, the monitoring system then emails this information to all relevant parties such as the paper manufacturer, maintenance provider or customer service at the respective Voith roll service center. The risk of a roll failure is thus minimized, and the roll change can be done during scheduled downtimes or safely postponed. This was the scenario at Model, a family-run company in Switzerland, where the first

signal from Voith's Seal Wear Monitoring system was received in May 2016 along with a predicted date for a roll change.

Jochen Honold, Product Manager for mechanical roll service at Voith, sums up the benefits for the customer: "This global innovation guarantees scheduling that is based on facts and therefore reduces the risk of an unexpected roll failure, which in turn avoids unnecessary costs. The customer has enough time to plan the shutdown and ensure that sufficient personnel are available to change the roll. In addition, a time window can already be booked for the roll service in a Voith Paper roll service center. This allows spare parts to be ordered in advance and the roll gets back to the customer much sooner."

Voith's intelligent wear monitoring system with fact-based scheduling of any necessary replacement represents a completely new procedure for planning preventive roll changes. Until now, changes have almost always been done on the basis of empirical values which do not, however, take account of the actual condition of the rolls. The main reason for this is that following installation of the wear parts it is not possible to check their condition at all, or only with a great deal of effort. This is why the decision-making procedure has been based on historical data and process or roll irregularities. The result is that in many cases, a roll is replaced even though the sealing strip system could have been used for longer. Thanks to the real-time data transmitted by the Voith Seal Wear Monitoring system, paper producers and maintenance providers can now decide on the timing of a replacement based on factual evidence. In practice, this allows the possible wear potential to be exhausted and therefore provides the option of extending service life with minimal risk of breakdown. Swiss papermaker Model is expecting the best case scenario to be a doubling of service life.

But even if the sealing strip wears sooner than expected, having real-time data now ensures that such events can be identified and predicted, allowing the operator to rectify them in good time. Seal Wear Monitoring therefore helps in any case to minimize the risk of a failure of the suction roll and consequently, a costly production downtime. Because the replacement is planned, Model can also produce a long-term schedule for its servicing activities and order all necessary spare parts at exactly the right time.

Moreover, the patented system is compatible with Voith's HydroSeal sealing strips which can reduce the lubrication water consumption of the suction roll by up to 87%. The system can be readily installed in all suction roll types regardless of age and manufacturer.

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Model produces packaging solutions from solid and corrugated board at 12 sites in Europe, including the home of the PM 3, the Niedergösgen production facility in the canton of Solothurn. The PM 3, on which the innovative system was installed, produces 215,000 metric tons per annum corrugated baseboard with basis weights of 120 to 170 g/m² from recovered paper on a working width of 5,200 mm.

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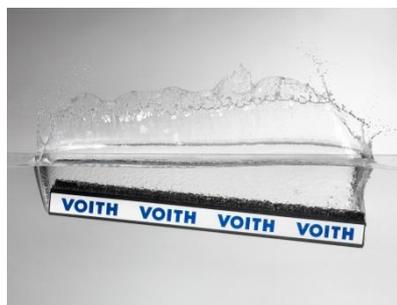
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The Seal Wear Monitoring system is a product from Voith's Papermaking 4.0 range, which allows paper machine efficiency to be increased through visualization, stabilization and optimization. The focus is on a modular concept that can be tailored individually to the needs of each customer and is independent of any existing process control system and the age of the machine.

Voith Paper is a Group Division of Voith and is one of the leading partners and pioneers in the paper industry. Through constant innovations, Voith Paper is optimizing the paper manufacturing process, focusing on developing resource-conserving products to reduce the use of energy, water and fibers. Furthermore, Voith Paper offers a broad service portfolio for all sections of the paper manufacturing process.

Voith sets standards in the markets for energy, oil & gas, paper, raw materials, transport & automotive. Founded in 1867, Voith employs around 20,000 people, generates €4.3 billion in sales and operates in over 60 countries around the world and is one of the largest family owned companies in Europe.*

*Without the discontinued Group Division Voith Industrial Services;



Voith's new 'Seal Wear Monitoring' system predicts a replacement date and is compatible with Voith's HydroSeal sealing strips.

Contact:
Matthias Herms
Global Market Communication Manager
Tel. +49 7321 37-2749
Matthias.Herms@Voith.com

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