OnV VirtualSensors
Intelligent process control

The right data to success
OnV VirtualSensors are a new generation of quality sensors. They facilitate online measurements of quality parameters that were previously not measurable with conventional sensors.

This is achieved with a multilayer model that combines process, machine and quality data. Due to the combination of paper technology know-how, many years of experience and data-supported models, OnV VirtualSensors can reliably predict various quality parameters with the highest accuracy. Among these parameters are the dry weight and the filler content in the paper.

The Voith OnQ GradeControl MD control uses such measurements with breaks and during start-up. Other areas of application include online predictions of strength characteristics and the porosity of the finished paper.

As a rule, these values were previously measured in the laboratory. With OnV VirtualSensors, however, the data are immediately available. The paper quality can thus be promptly and easily optimized. OnV VirtualSensors can be seamlessly integrated into the existing IT infrastructure. In addition, they can gather data from most process and quality control systems independently of the system provider.

Initial situation 1

With web breaks and during start-up, no quality data can be called up online, so that no feedback signal is available for the control. This frequently leads to deviations in basis weight and filler content shortly after the first scanner signal. Broke unnecessarily accumulates until the desired quality is reached.

Solution

OnV VirtualSensors determine the exact dry weight, even if no scanner values are available. This value is used by OnQ GradeControl for MD control. The basis weight is thus kept within the specification limits even with breaks and during start-up. The paper can therefore be threaded more easily and is more quickly salable again.

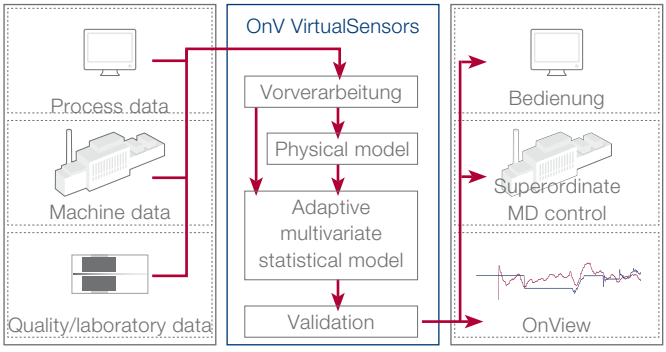
Initial situation 2

The strength of the paper can only be determined in the laboratory. The value is only available after a few hours, so that you cannot react in a timely manner to poor quality.

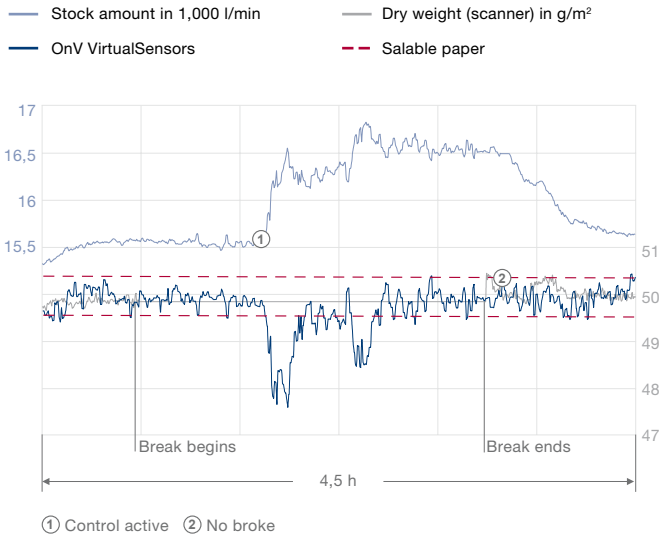
Solution

OnV VirtualSensors deliver the values for the strength of the paper online and facilitate a prompt reaction in case of deviations. Thus both the use of raw materials as well as the running of the machine can be optimized.

Project design



Controlled break with OnV VirtualSensors



Features

- Maintenance-free, self-calibrating
- Detection of statistical outliers
- Clear data visualization

Benefits

- Higher degree of machine efficiency due to shorter breaks and quicker start-up
- Control during a break
- Quicker reaction time with changed quality parameters
- Optimization of paper quality
- Minimization of broke due to less off-spec production
- Changes of target variables displayed in real time
- Better process understanding

Contact

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Engineered Reliability

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