



Customer Success Story

Smart machine monitoring

Increased safety, reduced downtime and costs

Stora Enso was searching for a monitoring solution for the various drive units at one of its Finland-based plants Sunila. The global corporation opted for Schaeffler OPTIME. This wireless solution offers Stora Enso's Sunila Mill the opportunity to monitor the assets that have previously been unmonitored due to high costs.

Benefits

- Easy installation of OPTIME solution.
- Quickly installed anywhere Stora Enso require.
- Easy data analysis: no expert knowledge required.
- Greater safety for employees, as access to hard-to-reach machinery is no longer required with the digital service.
- Cost-effective solution for comprehensive and wireless monitoring of machines.
- More efficient planning of maintenance measures, staff and spare parts supply.
- Unplanned downtimes are reduced to a minimum.



storaenso

Customer

Sunila, part of Stora Enso, Finland

Sector

Paper & Packaging and Forestry

Application

Motors, fans, pumps, mixers and screws, rollers

Solution

Condition Monitoring, Digital Service

What our customer does ...

Challenge

Stora Enso develops and produces solutions based on wood, paper, and biomass for numerous sectors and application areas around the world. The Sunila Mill in Kotka is one of 14 plants in Finland alone. This is where softwood pulp and by-products of the pulp industry, such as lignin, tall oil, and turpentine are used to manufacture products for the processing industry. Previously during production, unplanned failures had become more frequent often caused by unmonitored motors, pumps, gearboxes, and fans that are subjected to severe stress. To avoid such instances in the future, Stora Enso was looking for a cost-effective monitoring solution through subsidiary company Efora.

The simultaneous aim of the new solution was to provide better protection for their personnel. With this goal in mind, Efora turned to Schaeffler with this request.



Sunila Mill , Kotka, Finland



Sunila Mill , interior view

Around 150 employees process approximately 375,000 tons of pulp and 50,000 tons of lignin every year at the Sunila Mill.

Technical information

Rollers	<ul style="list-style-type: none">• electric motors 55-160 KW, 1500 RPM• gearboxes• bearings
Pumps	<ul style="list-style-type: none">• electric motors 1.5 - 400 KW, 1000 - 3000 RPM• clutch• bearings• pumps
Mixers and screws	<ul style="list-style-type: none">• electric motors 2.2 - 75 KW, 1500 RPM• gearboxes• bearings
Fans	<ul style="list-style-type: none">• electric motors 15 - 250 KW, 1500- 2000 RPM• bearings• beltdrive and blades

Process and Production Lines: water, wood, pulp fibre, drying and packaging

What Schaeffler has to offer ...

Solution

The Schaeffler Experts for Industry 4.0 recommended comprehensive condition monitoring with Schaeffler OPTIME. The Schaeffler OPTIME solution consists of wireless sensors, a gateway and the digital service. The sensors monitor the machines and equipment. The gateway receives the data from the sensors and transmits it to the Schaeffler Cloud. OPTIME detects problems, issues alarms and provides information about the possible source of the problem. No expert Condition Monitoring knowledge is required because OPTIME provides all this based on Schaeffler know-how. 500 sensors and 15 gateways could be installed at the Sunila Mill on 240 different machines within the shortest possible time-frame. The solution does not require any configuration and allows for several hundreds of machines to be monitored with ease. Thanks to the automatic analysis, the experts and maintenance personnel at Stora Enso are optimally supported and are constantly aware of their machines condition.



Schaeffler OPTIME wins the Red Dot Award 2021 in two categories

Performance data for the OPTIME sensors 3 and 5

Vibration bandwidth	OPTIME-3: 2 Hz – 3 kHz OPTIME-5: 2 Hz – 5 kHz
Calculated parameters	7
Sensor commissioning	NFC (Near Field Communication)
Communication	Wirepas Mesh (2.4 GHz ISM band)
Measurement cycle	Parameters: every 4 h Time signal: every 24 h

What's special

Stora Enso is highly satisfied with the solution. So far OPTIME has identified different problems for 16 machines. The Group plans to implement the OPTIME solution also in other plants. The solution can be used across all industries. OPTIME has been available on the European market since July 1, 2020.

500

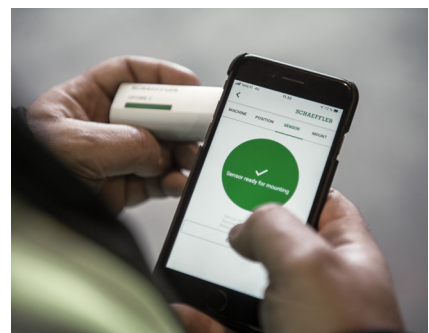
Schaeffler OPTIME sensors are installed in the Sunila Mill.



Schaeffler OPTIME is mounted.



The gateway is fitted.



The sensor is activated via app.

What our customer says ...



The profound knowledge from Schaeffler in Condition Monitoring issues is impressive. We value the cooperation highly.

OPTIME allows us to retrieve measurement data 6 times a day. We are obtaining more information than before, which is enabling us to improve our maintenance planning.

Mika Immonen
Site Manager at Efora Oy



Good price, top performance. The system is also suitable for operation in hard to reach places to carry out measurements. It is also suitable for hot and cramped places. I like it.

Juha Knihtilä
Reliability Engineer at Sunila Mill

Customer: Part of the bioeconomy, Stora Enso is a leading global provider of renewable solutions in packaging, biomaterials, wooden construction and paper. We employ some 25 000 people in more than 30 countries.