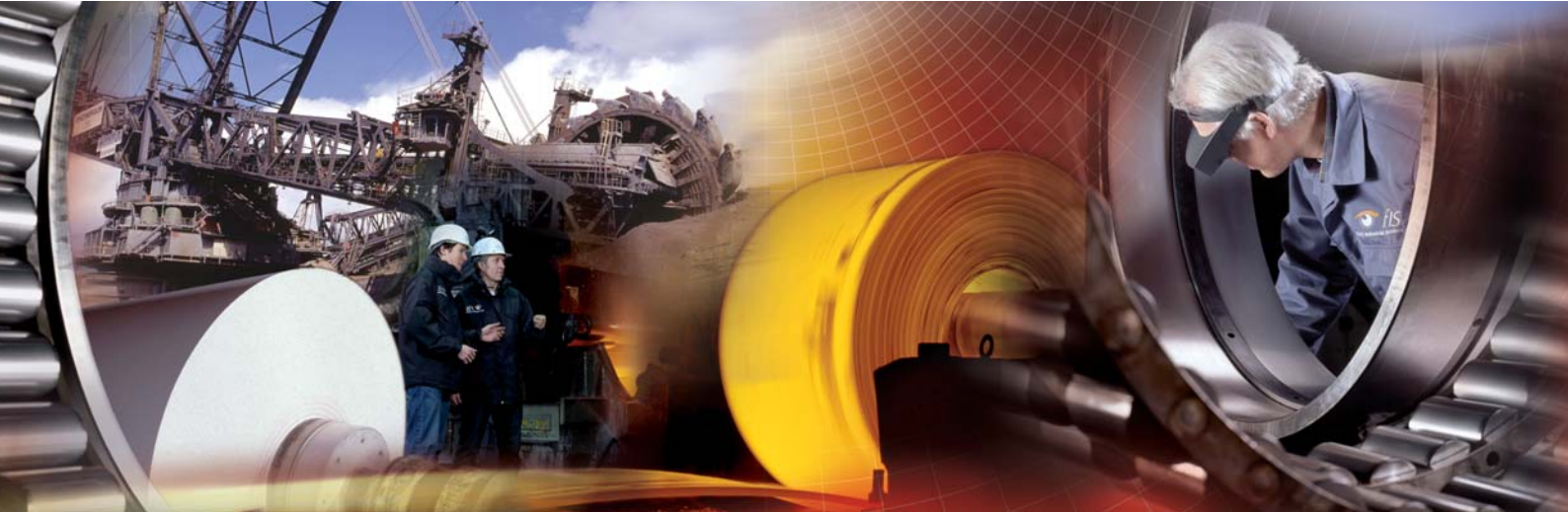


# Smart Performance Program



## Reliable Spindle Monitoring With FAG Detector III

**Industry: Woodworking Industry**

**Customer: Schüller Möbelwerke, Herrieden (Germany)**

Schüller Möbelwerke is a manufacturer of kitchen furniture. At a state-of-the-art 180,000 m<sup>2</sup> plant, Schüller – one of the top ten in the industry – employs a workforce of more than 800 and exports its products to countries all over the world.

### Challenge for Schaeffler

Drilling machines with single-tool and double-tool spindles are used to drill holes into the workpieces, which are made of wood, plywood, synthetic materials etc. The availability of these drilling machines is of decisive importance for the entire production process. To ensure availability the customer was looking for an appropriate measuring instrument. This should be able to detect emerging damage to the drilling machines at an early stage to avoid production disruptions due to drilling machine failures. The rolling bearing types used in the spindles are normally unknown as the units are sent to an external workshop for repair.

**schüller.**  
küchen fürs leben



### Technical Information about the Drilling Machines

Number of single-tool spindles: 20

Number of double-tool spindles: 10

Speeds: Between 3,000 and 6,000 RPM

Gear trains, toothed belt transmission gears and rolling bearings are installed in the transmissions.

## Schaeffler Solution

FAG Industrial Services (F'IS) presented the FAG Detector III to the customer. With this handy measuring device, users can carry out measurements on gear boxes without dismounting first. In this way, for example, an excessively high imbalance in a drilling spindle can be detected. The mobile measuring device also enables the customer's staff to assess a bearing's condition.

The customer was very impressed by the manifold capabilities of the FAG Detector III and is, therefore, planning to use it also to monitor spindles in machining centres and extraction fans as well as vacuum pumps.

A customer-specific product training was conducted at the customer's plant in which the customer's staff learned how to use the new measuring device. In the following months, they carried out measurements on the drilling machines without outside assistance. During another visit to the customer's site after about four months, the F'IS experts supported the customer's staff in the analysis of the measured data. This knowledge enables the employees to identify indications of damage to spindles themselves on the basis of vibration data.

## Customer Benefit

Condition-based maintenance of spindles that are critical for production allows Schüller Möbelwerke to prevent unscheduled machine shutdowns, schedule necessary repair work and reduce maintenance costs. The kitchen furniture is manufactured in production lines in which ten to twelve employees each work. Every time a production line has to be shut down due to damage – on average for about two hours – this incurs unnecessary failure costs.

## What's special

The application described is suitable for all spindles and drilling machine drives where the rolling bearing types used are largely unknown.

### Technical Information about the Solution

FAG Detector III functions used by the customer:

Vibration measurement incl. trend charts of the measured data (ISO, envelope, acceleration)



Contact details for worldwide contact persons as well as further **Smart Performance Solutions** can be found on our homepage [www.smartperformanceprogram.com](http://www.smartperformanceprogram.com)