

## Schaeffler Global Technology Solutions

### Food industry

Zentis GmbH & Co. KG, Germany

### Reliable Monitoring: Pallet Lifter in Continuous Operation

Zentis is one of Europe's leading companies for fruit processing, with headquarters in Aachen. Other production facilities and sales companies are located in the USA, Hungary, Poland and in Russia. Its fields of competence cover jams, fruit preparations for the baking and confectionery industry, confectionery (marzipan and chocolate specialities for distribution and industry) as well as fruit preparations for the dairy sector.

#### Challenge for Schaeffler

The pallet lifter is of central importance to the production process. Its failure would incur enormous costs. Zentis was therefore looking for a means of using vibration measurement to obtain information at an early stage on any possible damage to the geared motor and/or bearing arrangements in the cable reel of the pallet lifter. A particular challenge here was the short measurement interval. Constant measurement conditions are only present during the ascent and descent duration of six seconds.

#### Schaeffler Solution

In order to monitor the pallet lifter at one of its two sites in Aachen, three FAG SmartCheck units were installed on the machine. The monitoring concept is based on reliable alarm triggering in response to an increase in characteristic values. The alarm outputs of the FAG SmartCheck were connected to the FAG SmartConnect Box and onward to the customer control system. The FAG SmartConnect Box acts as a distributor for power supplies and additional signals. It also considerably reduces the cabling work required. The complete engineering program was monitored on site in a supporting role by Schaeffler experts.



#### Information about the Pallet Lifter

##### Nominal load of pallet lifter:

1 500 kg

##### Delivery volume/day:

600 pallets

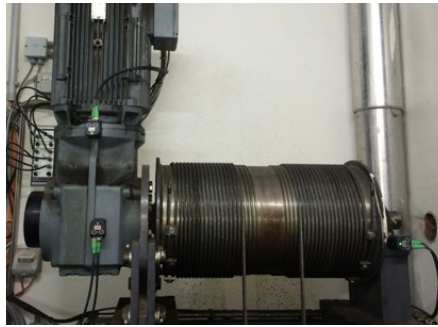
##### Stroke travel speed:

1,6 m/sec

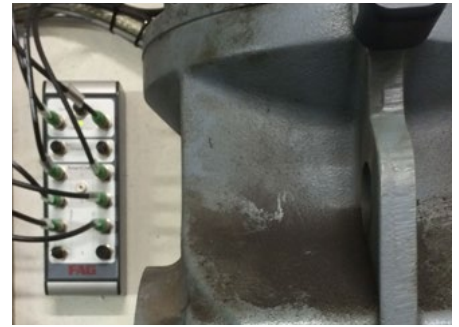




FAG SmartCheck – small and robust



Three FAG SmartCheck units ensure reliable alarm triggering on the pallet lifter



The FAG SmartConnect Box distributes power and additional signals to as many as four FAG SmartCheck units

## Customer Benefit

If the pallet lifter fails, the first production stoppages occur about two hours later. Longer downtimes of the high racking store have serious implications for all production lines.

Loss volume of production lines in percent:	
After 4 hours	60 %
After 6 hours	90 %

The predictive maintenance function increases production efficiency. The monitoring package – comprising three FAG SmartCheck systems and the FAG SmartConnect Box – allows a warning period of several weeks. Through early and reliable alarm triggering of this type, the internal maintenance function at Zentis can carry out any repairs required as part of planned maintenance work. This prevents unplanned downtime that causes high costs and stoppages.

## What's special

FAG SmartCheck provides secure and reliable alarm triggering despite the process-induced interference signals caused by ascent and descent operations. Even with very short measurement times, it gives stable and reliable results. The solution implemented here requires no expert knowledge by the customer and can be transferred to other industrial machinery in the food sector.

## Technical Information about the Solution

### Monitoring system:

3 FAG SmartCheck

### Vibration sensor:

High resolution piezosensor

### Parameters monitored:

- Various rolling bearings
- Tooth set in gearbox
- Speed
- Unbalance
- Temperature

### Accessories:

FAG SmartConnect Box for distribution of power supply and additional signals