



## Customer Success Story

We pioneer motion

# Stacker cranes safely monitored even at lowest temperatures

Zentis GmbH & Co. KG in Aachen uses large stacker cranes for storage, transfer and retrieval. In order to monitor the large and difficult-to-access moving components in the cold and frozen storage and to avoid unplanned downtime, the logistics department was looking for a predictive maintenance solution. The company opted for the Schaeffler ProLink CMS monitoring system. Schaeffler experts and the local authorized distributor KSA Kubben + Steinemer GmbH & Co. KG (KSA) implemented an intelligent measuring concept to adapt to the customer's requirements.

### Customer benefits

- Early alert in case of change of condition
- Plannable maintenance work
- More safety and transparency
- Integration into the customer's own control system



### Customer

Zentis GmbH & Co. KG,  
Germany

### Sector

Food industry

### Application

Stacker cranes

### Solution

Condition Monitoring



# What drives our customer ...



## Challenge

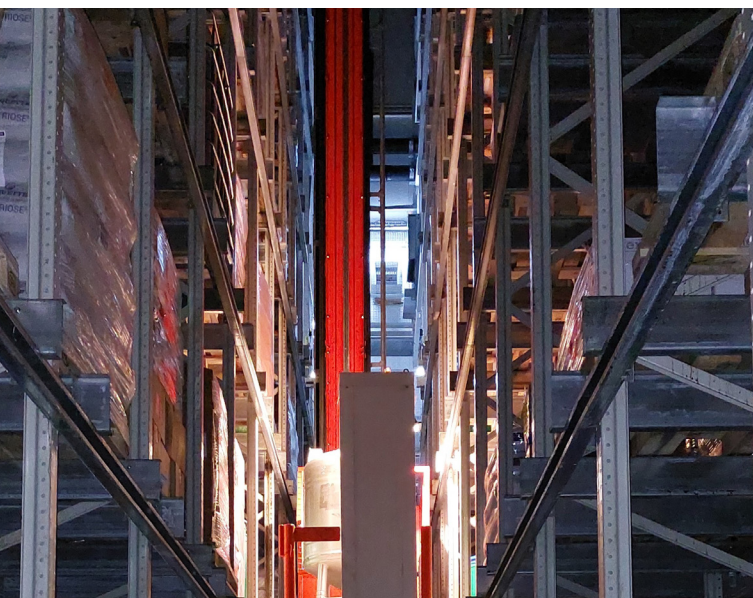
In the cold and frozen storage at Zentis, the stacker cranes constantly move around the approximately 30 meters tall high racks in different directions. The trolley bearings, in particular the non-driven bearing, are highly strained. The fact that constant measuring conditions do not exist during regular operation made things more difficult.

In addition, the temperatures of -20 degrees Celsius in the frozen storage posed a special challenge for the new measuring system, for instance, how to attach the sensors to the measuring point.

Michael de Ben, head of Internal Logistics at the Zentis plant, briefly summarizes the challenge:

**We are looking for a monitoring solution for our stacker cranes that can reliably take measurements despite inconsistent measuring conditions and ultra-low temperatures in order to protect us from unplanned downtimes.**

Zentis approached Schaeffler's certified distribution partner KSA Kubben + Steinemer GmbH & Co. KG (KSA).



### Technical information – Stacker cranes

#### Bearings

Channel bearings with satellite system

#### Capacity

Storage management of 18,500 pallet spaces

#### Height

Approximately 30 meters

#### Efficiency

Approx. 70 pallets per hour per device in storage, retrieval or transfer

# What Schaeffler offers ...

## Solution

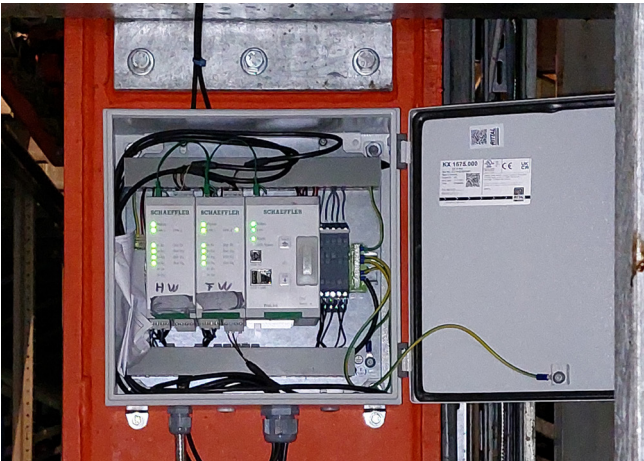
To monitor the stacker cranes, one Schaeffler ProLink CMS and five sensors (bearing guards) were installed on each stacker crane unit.

In order to be able to perform meaningful vibration monitoring, the original measurement concept had to be changed in the multi-channel condition monitoring system. Schaeffler experts achieved this by breaking down the short, slow travel times into many short measurements. Extreme impacts could then be determined from these.

The temperature challenge was solved as follows: In the cold storage area, the ProLink CMS system was installed in the switch cabinet; in the frozen storage area, the system was placed in heated control cabinets that escort each run. The sensors could be attached to the measuring point using a cold-resistant adhesive compound.

## What's special

Zentis KG is absolutely satisfied with the monitoring solution that meets all their complex requirements. It was similar when Zentis was looking for a solution for their pallet lifters years ago. That challenge then was solved with the SmartCheck monitoring system and a SmartConnect Box.



Schaeffler ProLink CMS inside switch cabinet



### Technical information on ProLink CMS

Data exchange with customer infrastructure, for example system visualizations and cloud service	via OPC/UA
Interface to maintenance planning systems such as SAP/PM and IBM Maximo	via OPC/UA
Cyclical transmission of the report or in case of alarm	Email
Exchange of measurement data	Via fieldbus. In planning: Profinet and CC-Link IE Field



Sensor (bearing guard)



## Ideally monitored

Stacker crane unit in the frozen area equipped with a heated control cabinet



Rear view





# What our customer says ...

**The ProLink CMS system monitors heavily strained moving components of the stacker cranes that, due to their size or mounting position, cannot be repaired promptly in the event of an unplanned malfunction. By using bearing guards, the vibration pattern of this equipment can be permanently observed, and any deviation can be detected at an early stage. This way, the ProLink CMS system makes a crucial contribution to safeguarding the production supply at Zentis KG Aachen.**

**Michael de Ben, Head of Internal Logistics, Aachen**

## Why Schaeffler?

- Technical know-how
- Local customer service (KSA)
- Competent consultation through Schaeffler and KSA

## Why this specific solution?

- Precise machine condition data
- Perfectly matched solution
- More know-how

## Customer

Zentis has been refining fruits and other natural raw materials for over 125 years. Founded in Aachen in 1893, the company is still family-owned. Zentis is one of the leading fruit processing companies in Europe and an indispensable partner and source of inspiration for the processing industry and the trade. Zentis stands for first-class products, an uncompromising quality policy and the passion to always make the best out of fruit.

The Aachen-based company has been climate-neutral since 2021.



ProLink CMS is part of the Schaeffler Lifetime Solutions portfolio, which offers a comprehensive range of products, services and solutions for industrial maintenance. It is designed to support maintenance personnel over the entire lifetime of a machine.

[www.schaeffler.de/en/lifetime-solutions](http://www.schaeffler.de/en/lifetime-solutions)

