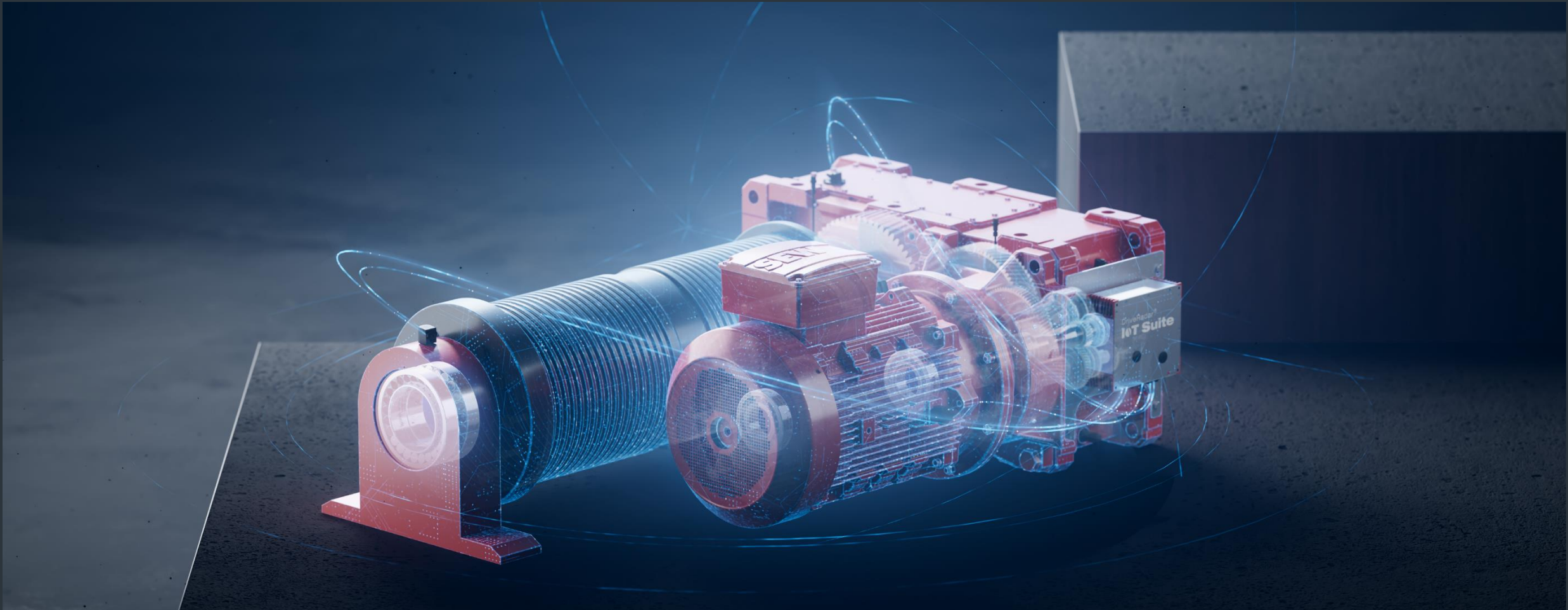


Continuous condition monitoring of gearboxes

SEW
EURODRIVE

TOC EUROPE | SEW Eurodrive | René Maisenhelder



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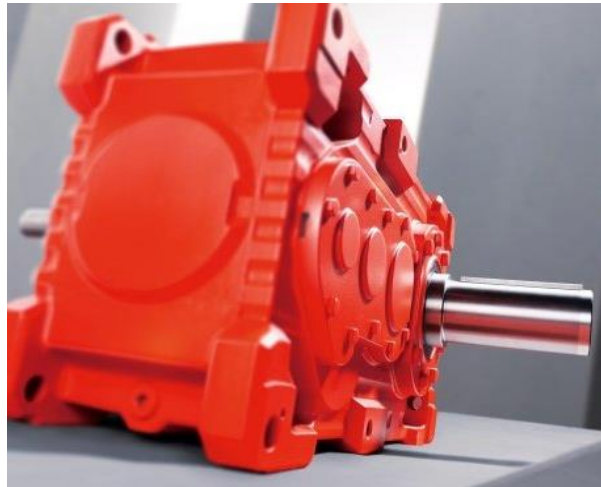
Our Credo (since 1931):

**“People don’t want
products – they
want solutions.”**

Ernst Blickle

Son-in-law of the founder of
Süddeutsche Elektromotoren-Werke (SEW)

Think we have a large selection?



We will be happy to assist you in selecting and designing your personal drive solution, even from batch size 1:

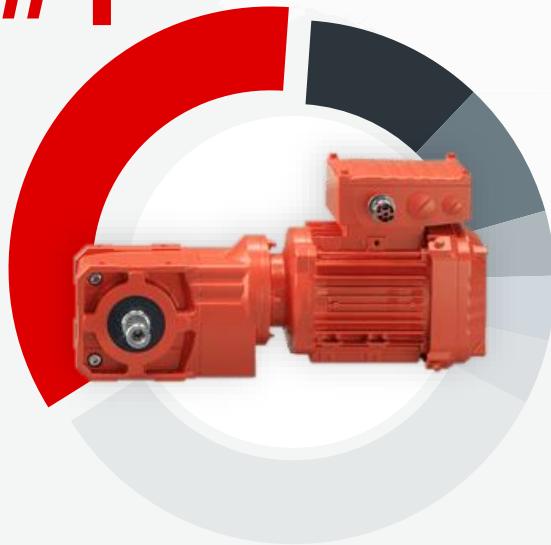
- Standard gearmotors
- Decentralized technology
- Servo technology
- Industrial gear units
- Control technology
- Functional safety
- Software
- Service

Our portfolio is just as diverse as the needs of our customers.

Our Know-How for your competitive edge

Benefit from our knowledge and experience from countless applications
and from one of the leading companies in drive and automation technology:

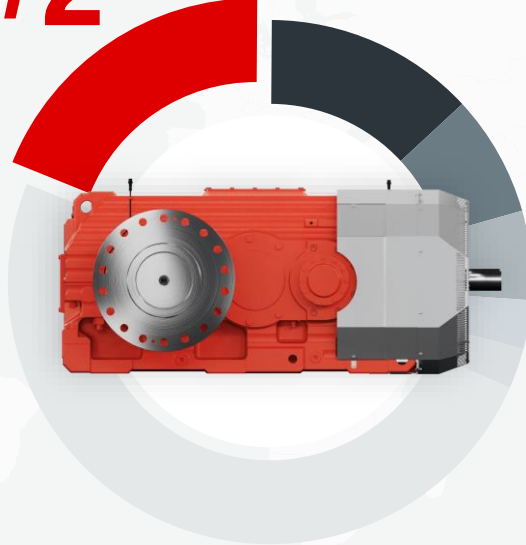
#1



Gear motors

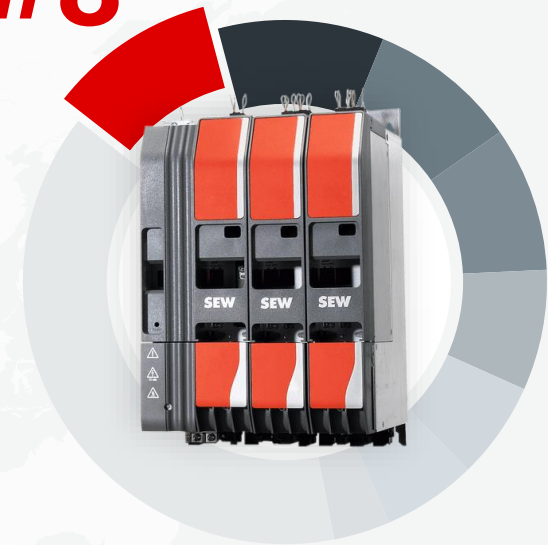
Standard and decentralized

#2



Industrial gears

#8



Frequency converter

Standard, Servo and Remote

Efficient maintenance **for**
Safe operation **through**
Automated condition monitoring

Customer values



Monitor cost-effectively
thanks to easy integration into the existing DriveRadar® architecture



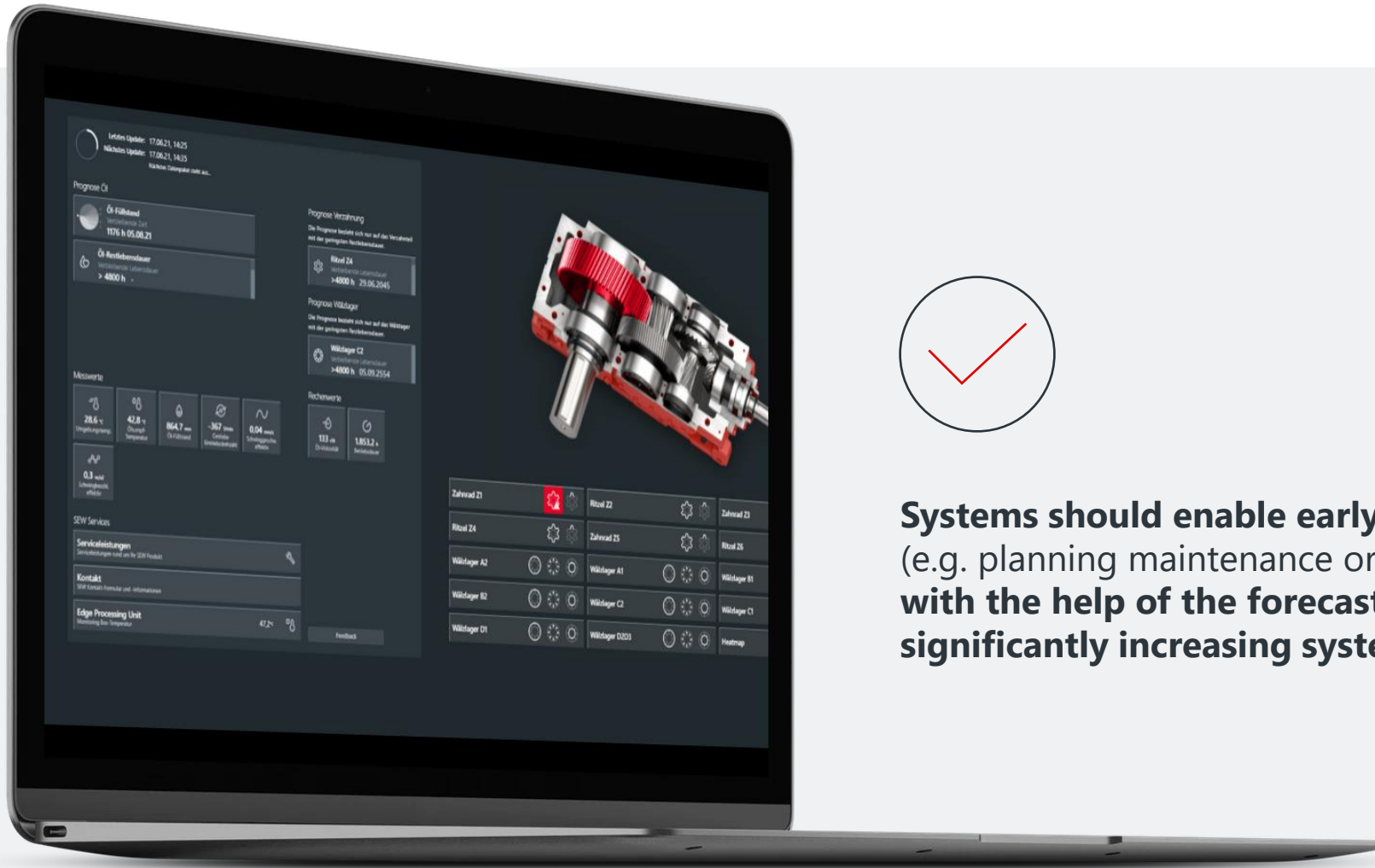
Digital service
delivers professional diagnoses based on expert algorithms and machine learning



Comprehensive monitoring
Can be flexibly implemented for all relevant drive components



Safe forecasts in uncertain times



Systems should enable early reaction to events
(e.g. planning maintenance or spare parts orders)
with the help of the forecasts made available, thereby
significantly increasing system availability and safety.

Functional components at a glance



Information on IT security and data security

Direct & Secure



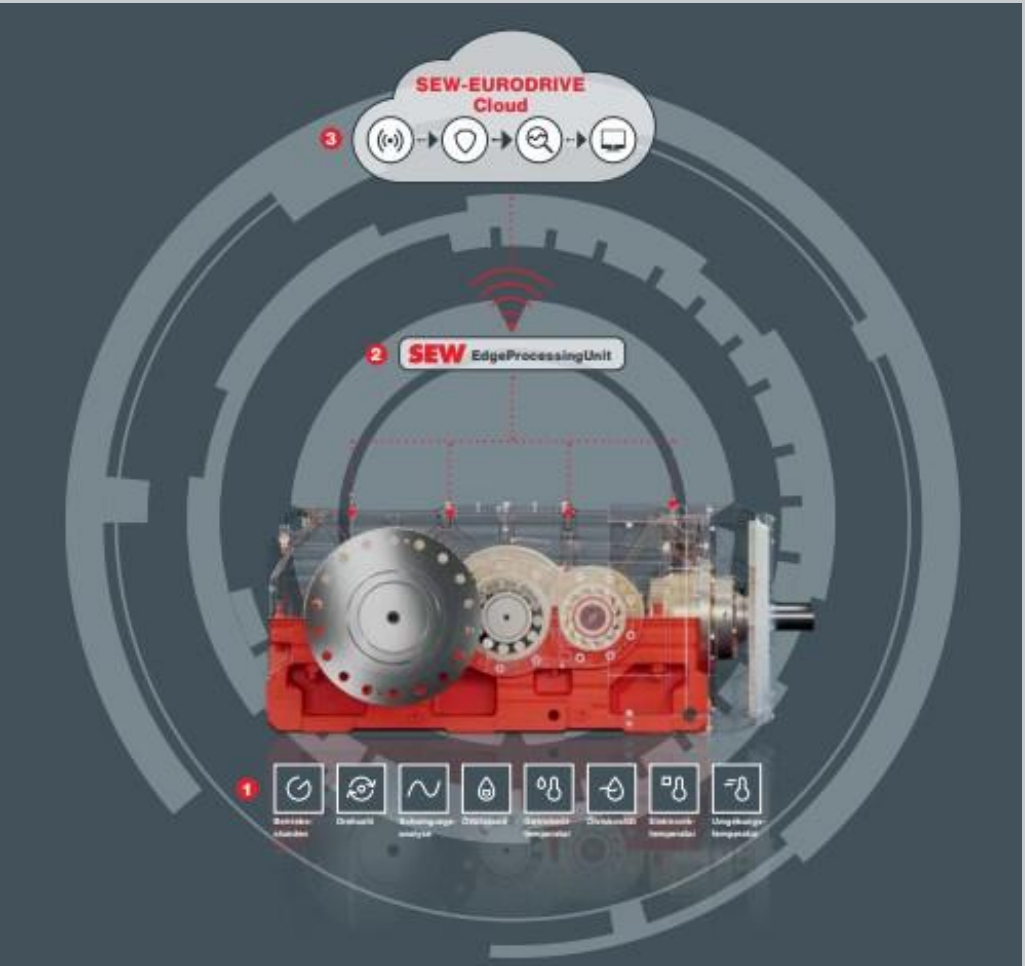
Data is transmitted directly and securely from the industrial gear to the cloud via mobile network without intervention in the customer network.



Only raw data is transmitted. Processing and interpretation occur at SEW-EURODRIVE's ISO/IEC 27001 certified data center.



Data transmission between the industrial gear and the cloud uses a secure HTTPS connection.



Intelligent forecasts even for dynamic applications

Innovative forecasts in combination with detailed measured value view

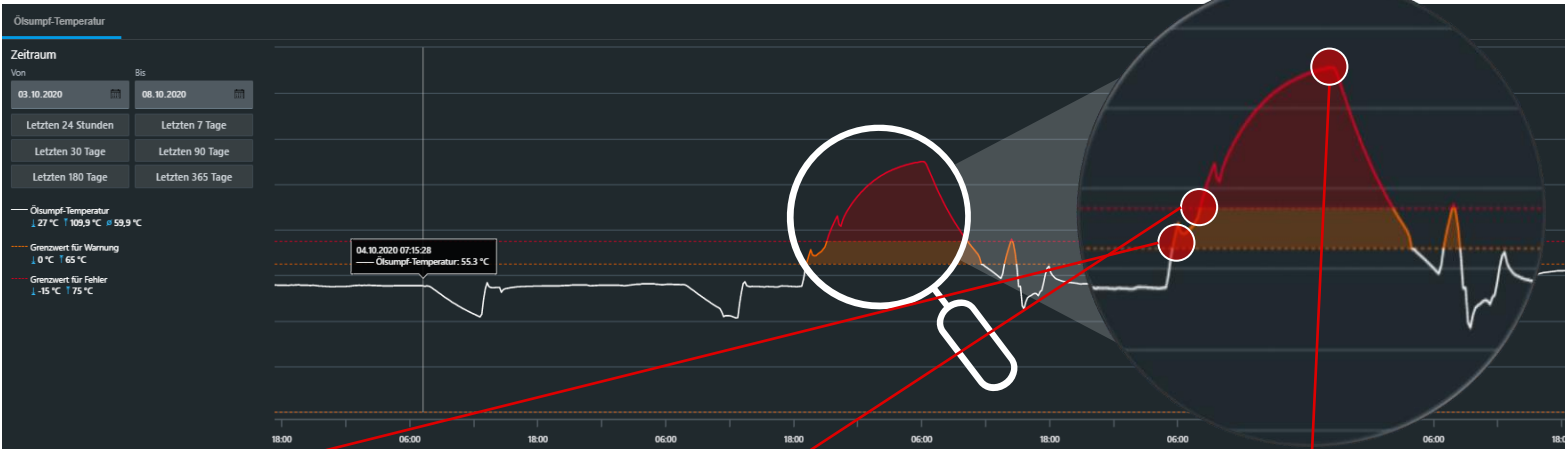
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"Never miss a problem"

Use case: Failure of the oil cooling system



Failure of the customer's oil cooling led to a critical oil temperature



Warning

Abnormal oil temperature detection



Error message

Exceeding 75°C

Gear unit shutdown

and cooling repair

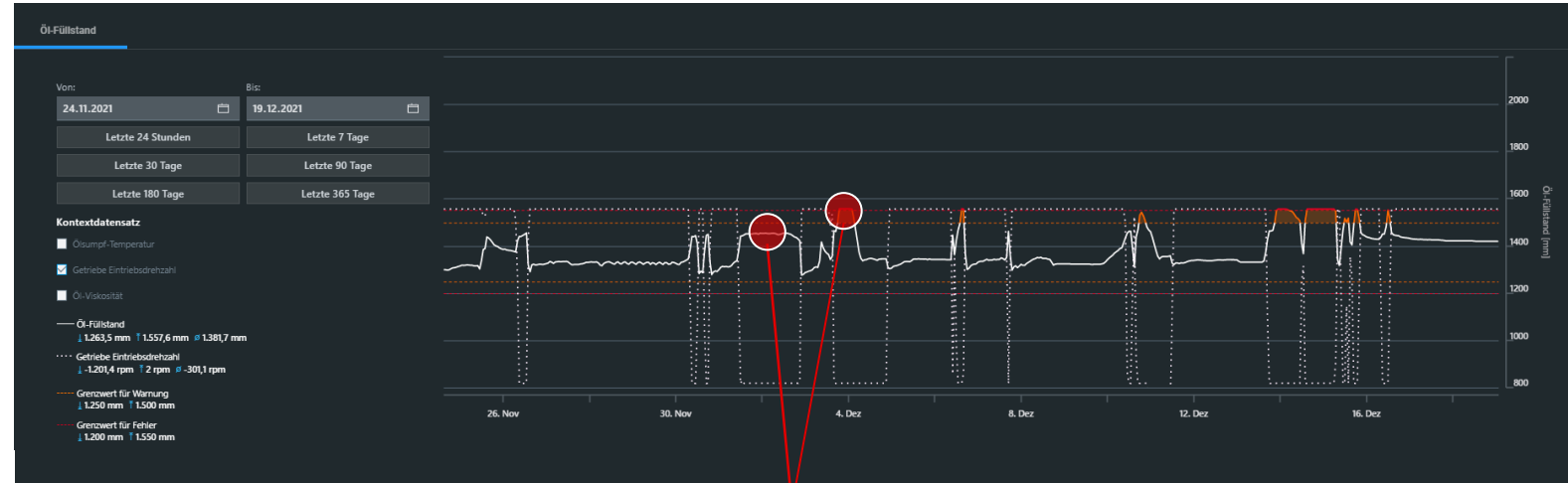
Cause and solution

The failure of the customer's oil cooling led to a sudden increase in the gear unit oil temperature. Thanks to the monitoring and timely notification by the DriveRadar® IoT Suite for industrial gears, the gear could still be saved.

Use case: Clogged vent valve



External tank
with oil level sensor
and additional
ventilation



Oil level increases after standstill at the same operating point
(temperature and speed) **increases significantly**

Cause and solution

A clogged filter element (BPG) on the drive increased the pressure in the transmission. The air exchange was granted via the vent on the external tank. Due to the clogged vent valve the oil level increased at the sensor. The gear units filter was converted to a different filter type with a paper filter insert (PI) and the problem was eliminated before any damage occurred.

Use case: Faulty oil filling 1v2



Oil level during operation
at constant operating speed and
steady oil temperature

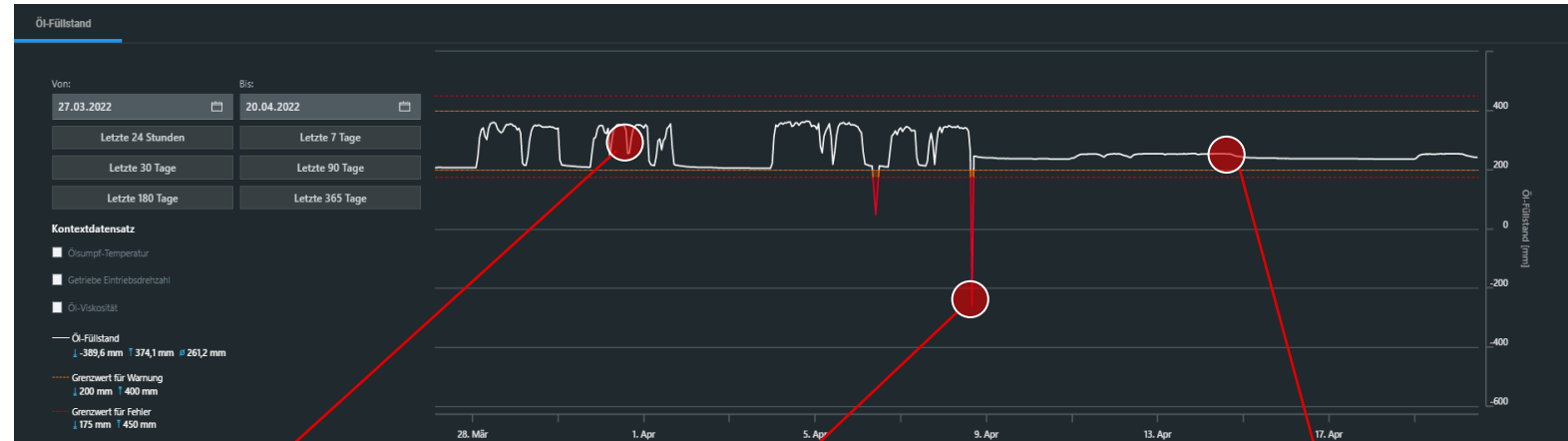
**Suddenly strongly
fluctuating and rising
oil level**

Oil level at standstill
after maintenance shows foaming

Cause

During a maintenance activity, the oil of the gear unit has been changed. Over the course of the next week, a heavily fluctuating oil level and a rising oil level can be clearly seen in the DriveRadar® IoT suite. In the further course, the level rose and thus triggered a warning as a push notification.

Use case: Faulty oil filling 2v2



Strong fluctuations
in the oil due to foam
formation

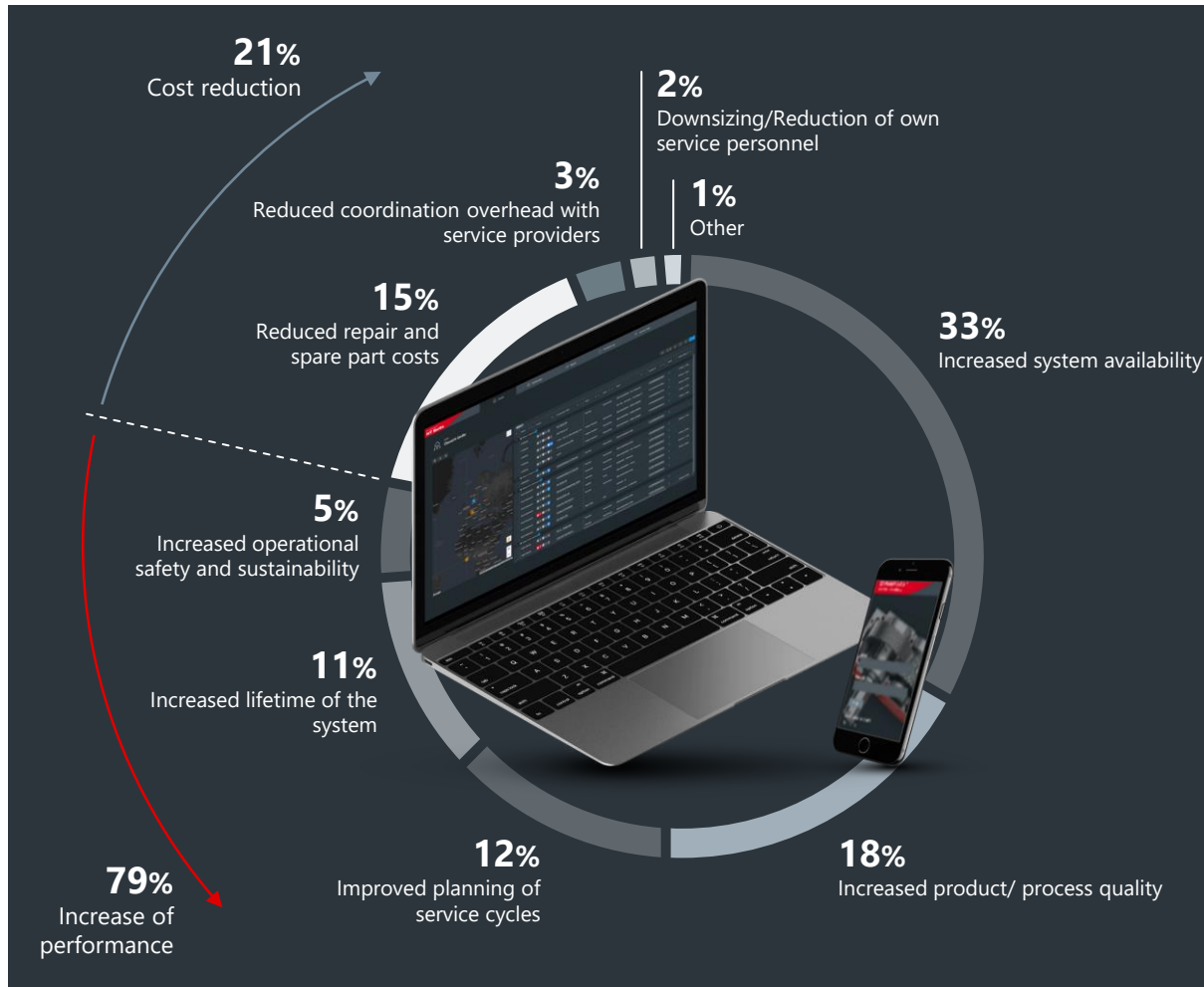
Flushing and refilling
with the specified gear oil

**Normalized and correct
behavior after oil change**

Solution

During a maintenance, the customer accidentally filled in VG 320 mineral oil instead of VG 220 synthetic oil (initial filling ex works). This led to foaming in the oil. The error was detected by the DriveRadar® IoT Suite. The oil level has normalized after flushing and refilling with the specified oil. The risk of gear damage due to reduced lubricating effect was eliminated early on.

The potential of smart maintenance



Transparency about the condition of the gear unit

Reassuring feeling of knowing that the gear unit is working properly and of being informed if this condition changes.



Early detection of faults

This makes maintenance actions plannable. "Firefighter missions" are avoided.



Faster maintenance, reduced downtimes

Already before opening the drive, it is known which components are worn out and need to be replaced. The risk of a failure is minimal.



Optimized stock keeping

Spare parts, repair tools, maintenance personnel, and all aids can be organized on a long-term basis. Express surcharges for material and overtime surcharges for personnel can be largely avoided.



Targeted optimization of the drive

Causes of problems can be reproduced and damaging influences can be eliminated.

Thank you for your interest

In case of additional questions, contact us



TOC Europe, Rotterdam
11 – 16 June 2024
Hall 1, booth G54


We are looking forward
to your visit!



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