Röchling

Industrial

Smart Plastics

We digitalise plastics for your industry.

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industrial

Why is developing smart components more important than ever?

Improving processes is an ongoing task in each company. Röchling Industrial provides more than solutions. We provide intelligent wear parts which help learning and improving daily processes. By using smart components with implemented sensors you are able to measure crucial factors:

Temperature

Wear

Water flow

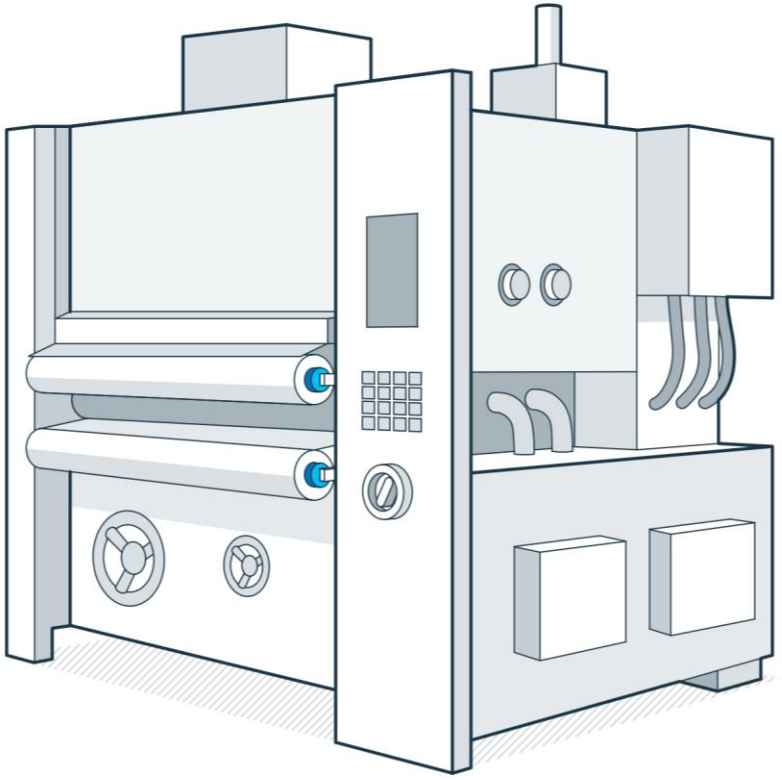
Loading pressure

Noise level

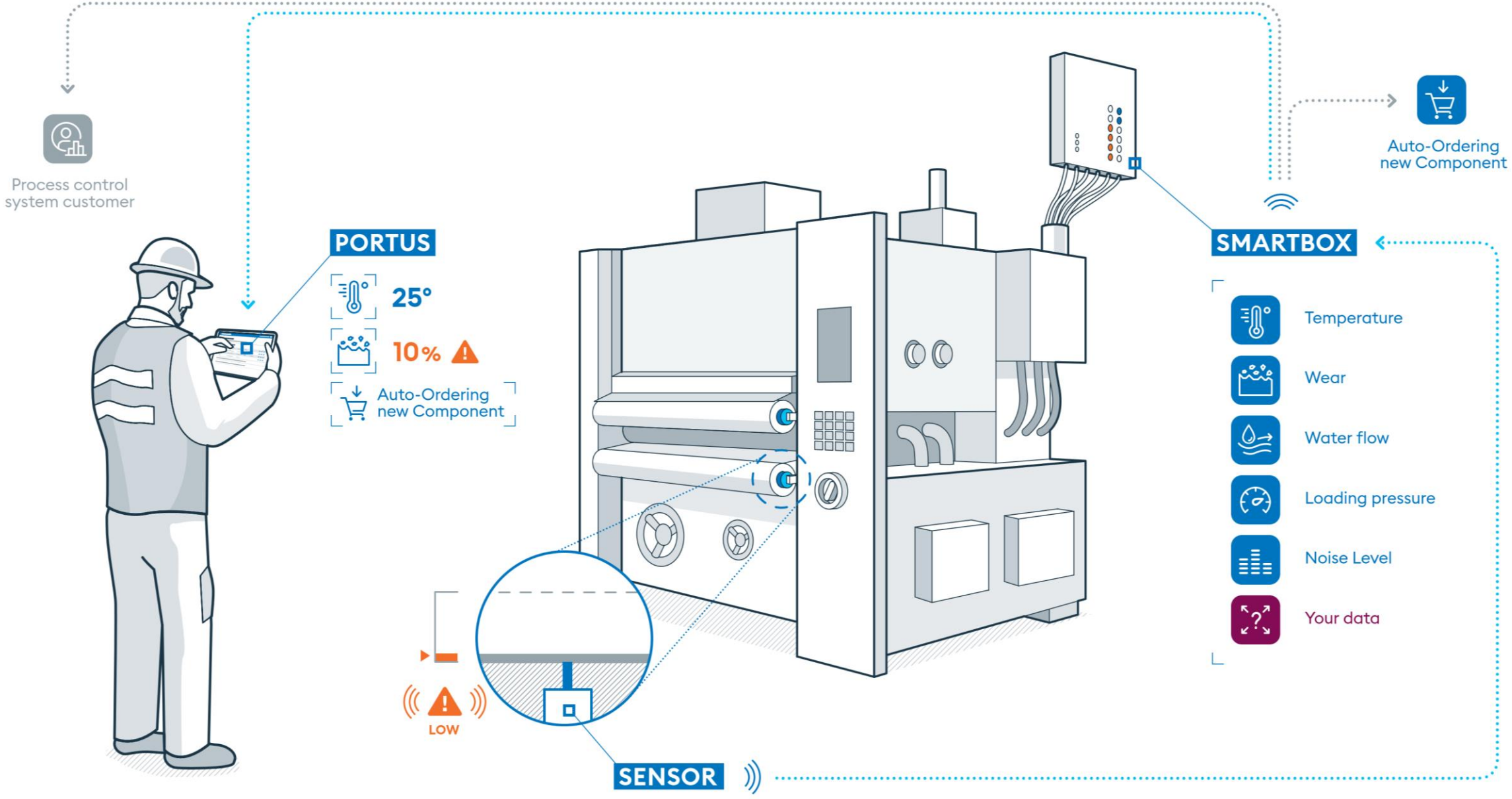
Your data?

Which data do you need to optimize your processes?

Traditional Business



Smart Plastics



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WHAT ARE SMART PLASTICS?

Explained using the Mining industry

Is there any data you are already collecting?

What data would you need?

How can we support you?

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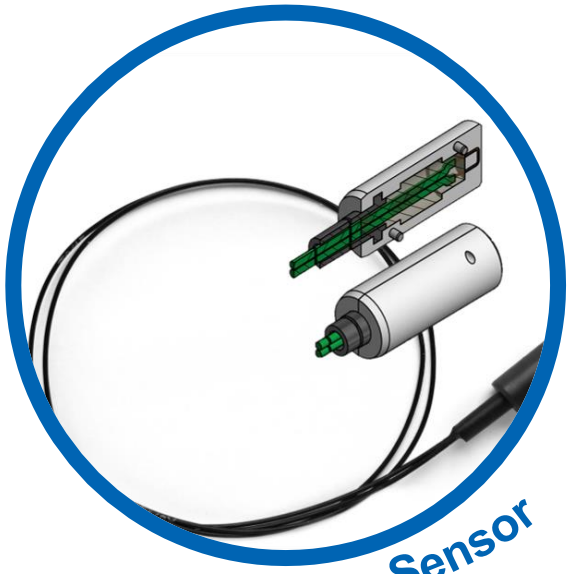
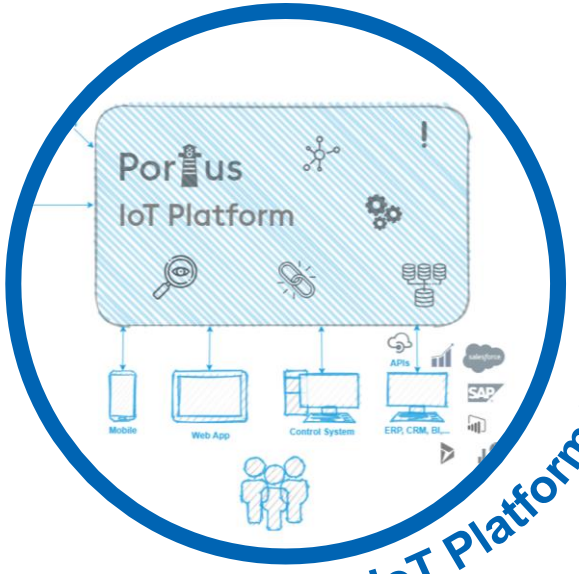
Product



Sensor

- Temperature
- Wear sensor

Smartbox



IoT Platform Portus

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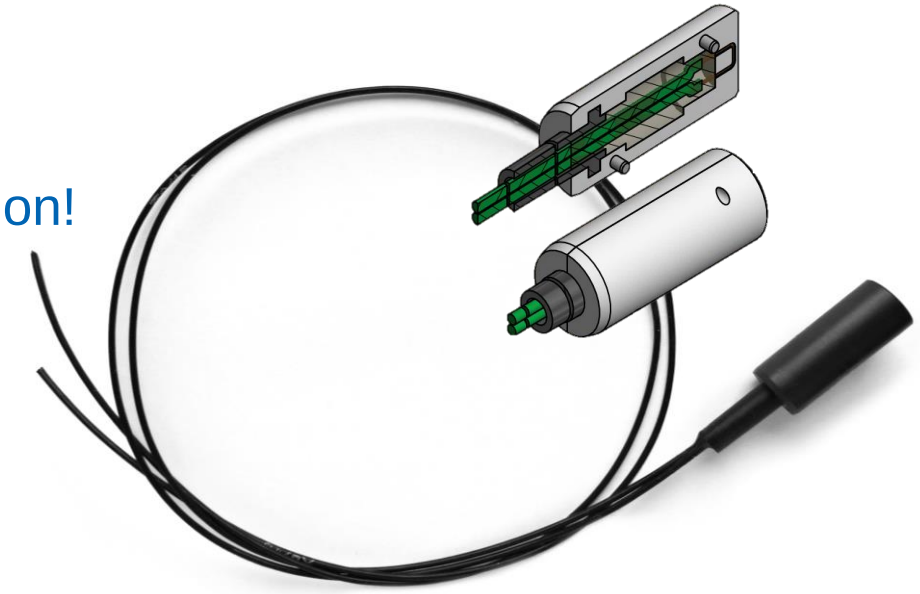
Smart Wear

Which problem is solved for the customer?

- Development of temperature sensor + wear sensor in one
- Zero Downtime! Wear and temperature monitoring avoid unexpected production downtimes due to defective functional parts
- Maintenance only if necessary → Cost savings!
- Increased transparency through platform: Documentation!
- Auto-Ordering of new components



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Smartbox

- **Collects data and sends it to the IoT platform**
- **Mobile radio connection (no company network access required)**
- **Number of sensors per Smart Box: 1 to 6**

Technical data:

- 230V power supply
- Sensor states: worn-out (yes/no), temperature,
  connected to Smart Box (yes/no)
- Measuring principle: resistive
- Smart Box dimension (mm): 350 x 250 x 180
- Maximum recommended cable length from sensor to Smart Box: 50 m

IoT Platform Portus

Insights

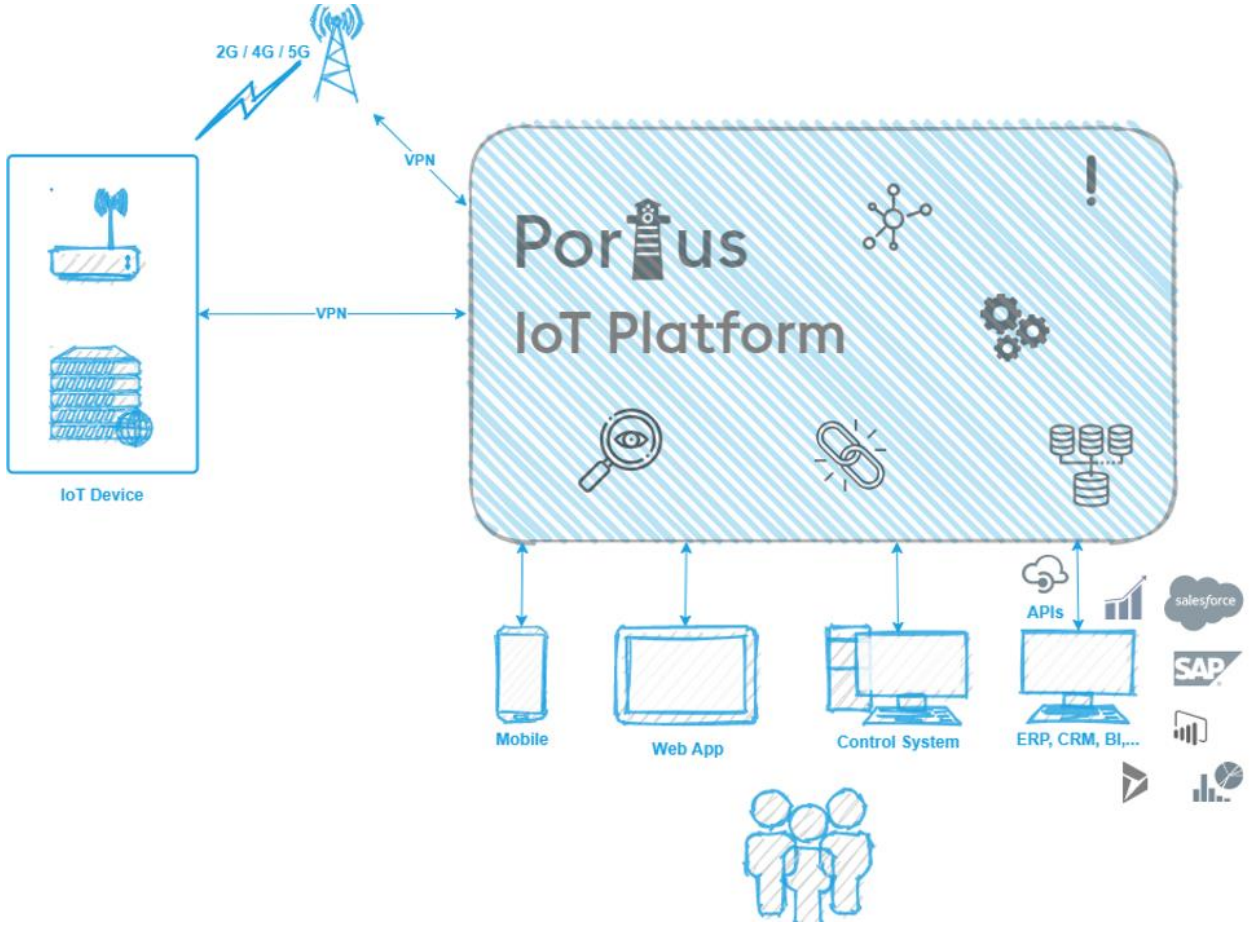
IoT platform | Portus

Details

- The **Internet of Things** (IoT) connects products, processes and employees to drive digital change
  - connected devices/components can actively interact with another

- **IoT Platform:** place where data is collected, bundled and evaluated → Portus

- Portus is a digital product which is offered to the customer



IoT platform | Portus

Features

Platform features

- Dashboard about machines equipped with smart products
- Microapp structure: Different apps for different use cases (Smart wear, Smart stock, …)
- 24/7 Notification
- Interface to your ERP system available

Smart wear features

- State visualization and event notification (over-temperature, …)
- Temperature and worn-out diagrams
- OEM customer has access to end customer applications/devices
- End customer has access to to all of his applications/devices
- Customizing of application title and wear part titles

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Industry success stories

Industry success stories

Mining – wear sensor

Linings and conveyors in mining are exposed to extreme loads. Bunkers need to be empty to check wear plates – not if they are smart and enable remote condition monitoring during operation.

+30 %
Savings in maintenance costs

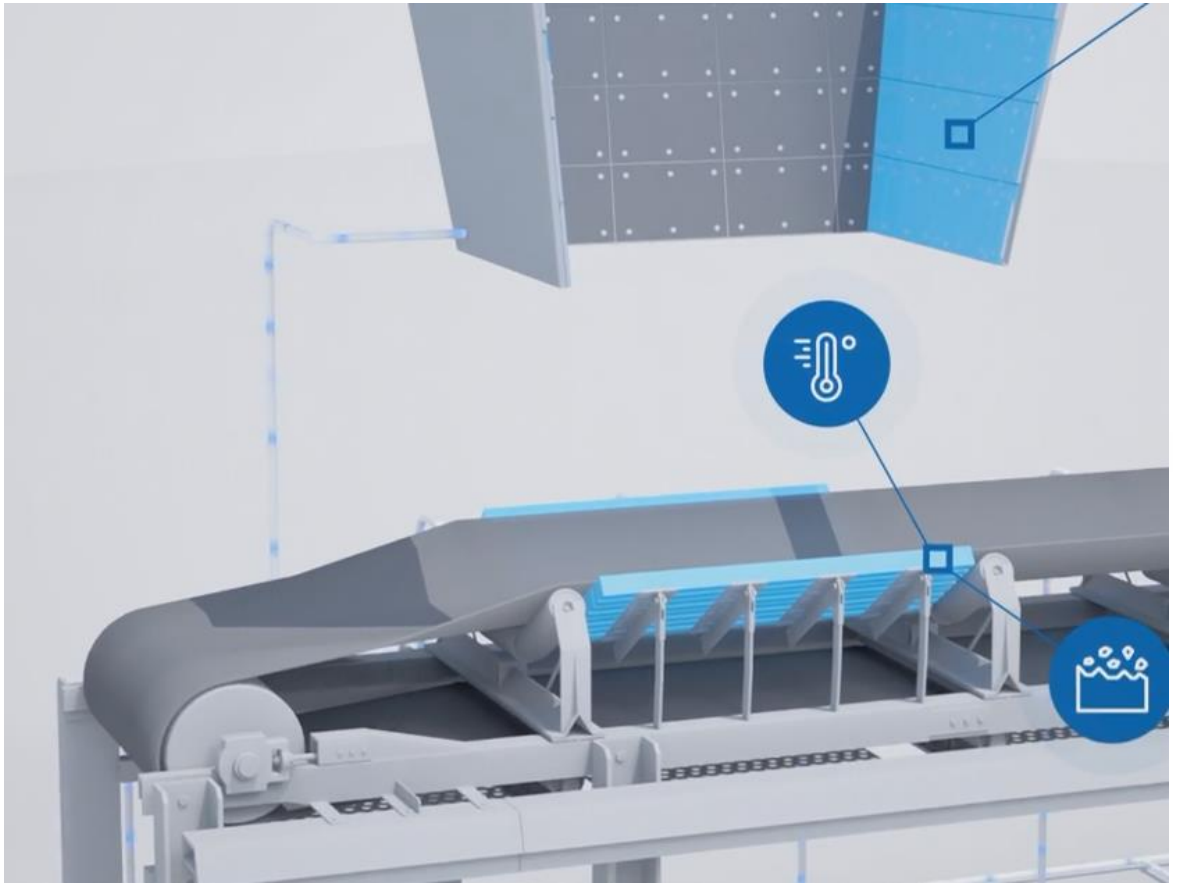
Zero Fire!
Monitoring system reports before overheating occurs

Reduction of insurance costs

Impact bed

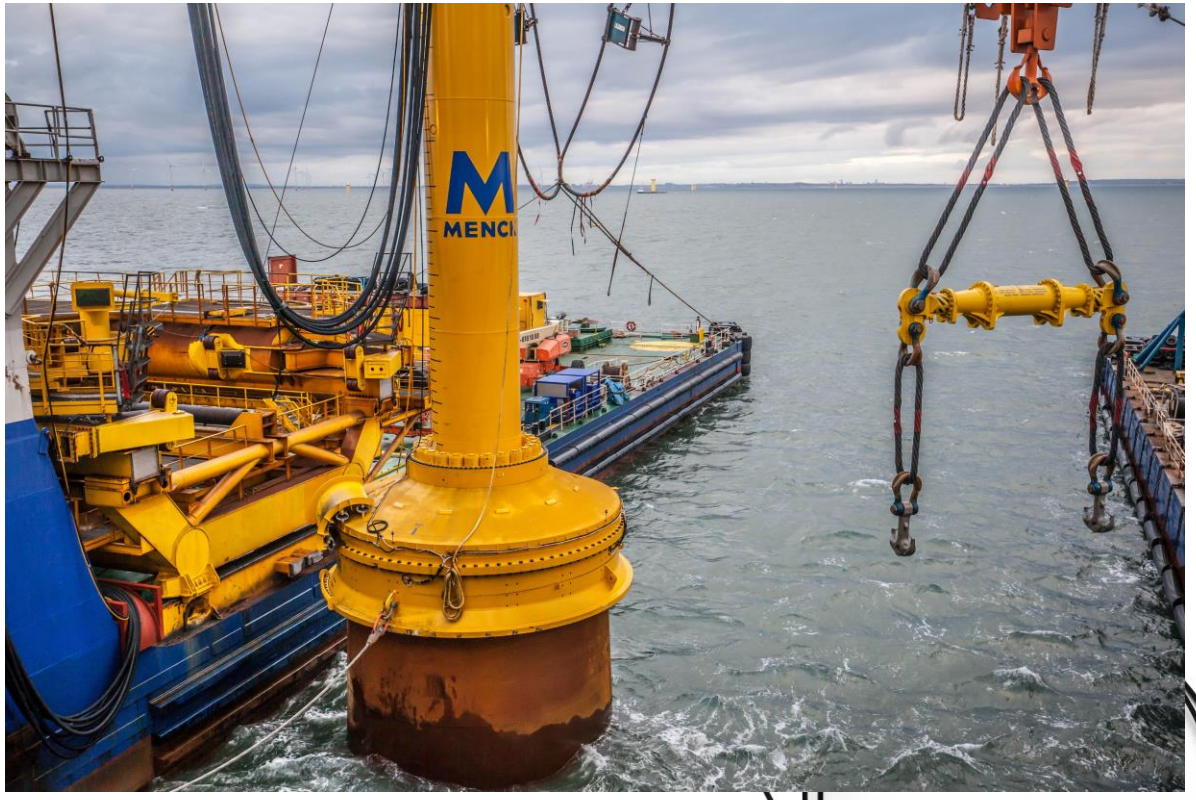
Mining | Product example

- Impact bed protects conveyor belt against damage in impact areas
- Wear and temperature sensors in impact bars helps to control wear / temperature damage status of impact bar
- Predictive maintenance
- „Full-service package“: Smart Stock with i. automated spare part order



Industry success stories

Oil & Gas – wear sensor

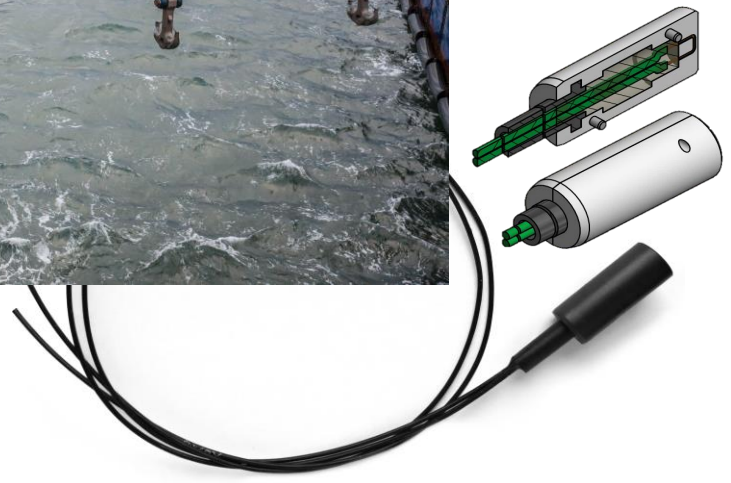


Source: menck.com

400.000 €
Lower maintenance costs due to smart sensor control

+18%
In productivity due to less down time

Protected environment thanks to lower lubricant consumption



Industry success stories

Paper – automated parts with temperature/moisture sensors

Smart Table

Intelligent paper machine wire section with embedded smart sensoric in dewatering elements

5%

Increase in production & optimized paper quality

SAVES 1000 tons CO2 per year

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Industry success stories

Agriculture – wear/humidity sensor

Wear parts, like skid plates in harvesters, sliding on the soil, are equiped with smart sensors to provide essential data

- Humidity measurement and field mapping
- Ration calculation based on dry matter

Autonomic run of machines

10%
Higher efficiency through online wear detection

- Is there any data you are already collecting?
- What data would you need?
- How can we support you?

Develop YOUR smart idea with us!

Let us talk!

Full of ideas?

Contact us!

Let‘s have a workshop

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Ongoing development accompanies us for a lifetime. As “Smart plastics” is one of our strategic Röchling Industrial innovation focus, developing smart products together with our customers across all industries needs to be our common goal.

We want to be *the* innovation leader in the plastics industry!