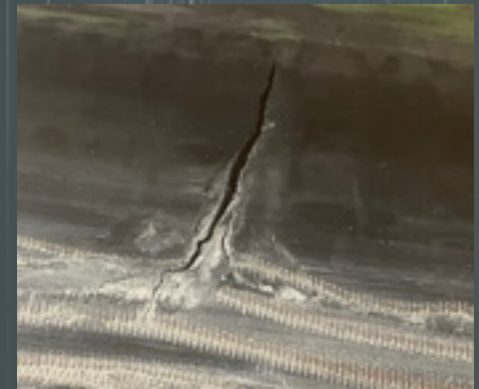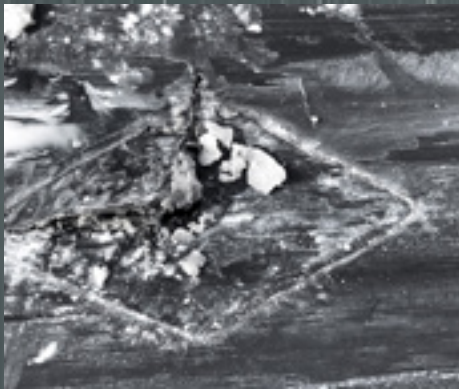# S³

STARCLEAN®
SMART
SCRAPER

Belt damage detection

BELT DAMAGE
THE UNFORSEEABLE DANGER

Unplanned production downtime due to damaged conveyor belts is one of the biggest challenges in the bulk materials industry. Even the smallest damage can cause major problems and ultimately bring the conveyor system to a standstill if not detected in time.

Top Cover Damages, Splice Damages, Repair Damages, Belt Rips, Edges Damages - a nightmare of all conveyor belts.

WE HAVE THE SOLUTION!

With the innovative STARCLEAN®S³ belt damage detection system, our customers get what they need: early damage identification, resource conservation, and operational safety.

S³ STARCLEAN® SMART SCRAPER

THE NEW DIGITALE STARCLEAN®S³

Our unique smart scraper with an electric drive, combined with our smart cloud dashboard, enables predictive maintenance of wear elements through preventive damage detection on the conveyor belt. This digital innovation gives the scraper the ability to self-regulate wear and tear while also ensuring a constant pretensioning force – completely automatically.

Designed according to the principle of **"detect - react - protect"**, our innovation enables continuous contact-based inspection of the conveyor belt, thus enabling predictive maintenance.
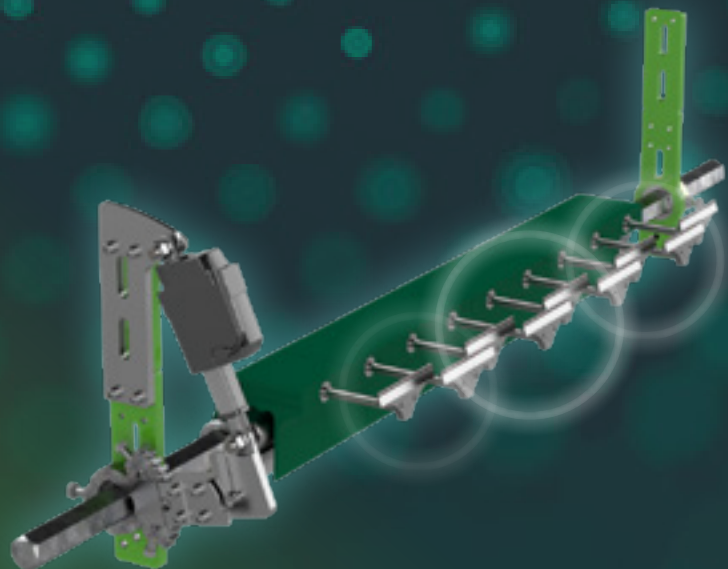
ADVANTAGES AT A GLANCE:

- Continuous inspection
- Damage limitation
- Efficient use of resources
- Improved operating reliability

- Prevention of unscheduled conveyor belt downtimes
- Transparent data analysis

THE MODULES

- Scraper
- Motorization set
- Scraper Intelligence Module (SIM)
- Measuring roller with sensor system

- Belt damage detection
- LTE Edge Controller/Cloud
- Signal Link

PRODUCT VIDEO

DIE MODULES
BASIC VERSION

Scraper Intelligence Module (SIM)

Motorization set with S³ sensor system
Drive on one side and on both sides

Scraper
Primary or secondary

Measuring roller with sensor system

TECHNICAL APPLICATIONS

- Automatic or manual engagement and disengagement of conveyor belt cleaner
- Automatic readjustment of the pretension
- Wear indicator and warning
- Constant belt damage detection by the secondary scraper
- Operating hours display for belt conveyor, scraper, and wear parts
- Switch-on, engagement and disengagement counter
- Indicator of conveying speed and running direction
- Control for up to four scrapers
- RFID access with rights allocation to protect against unauthorized access
- Information about the belt conveyor, the scrapers, and the control system
- Error messages and faults

STARCLEAN®S³
DASHBOARD/CLOUD

STARCLEAN® Cloud is one of two options for displaying the collected S³ data.
The information is presented in a clear dashboard and can be accessed via the web.
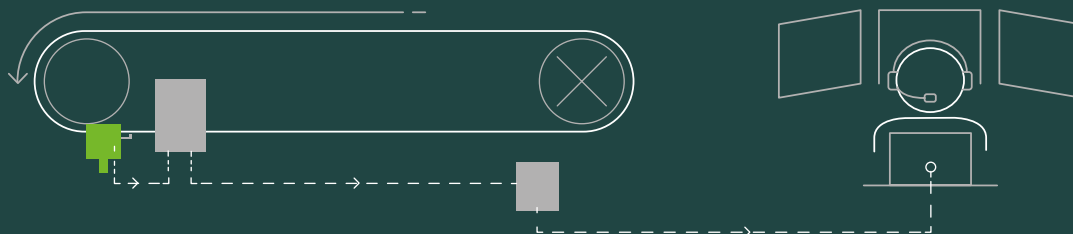

WHAT THE CLOUD CAN DO

- Continuous monitoring of the conveyor belt
- Classify the damage
- Define the internal damage level
- Initiate action if belt is damaged
  (disengagement, send information, alarm, you determine the function)
- Detect the position of belt damage
- Record belt characteristics
- Smart, cloud-based dashboard

STARCLEAN® S³
SIGNAL LINK

As an alternative to our cloud, the signal and status reports from the STARCLEAN® Smart Scraper can be sent directly to the control room, e.g. via a PLC.

The Signal Link can serve as an add-on to the cloud or as the only data source.

BENEFITS AT A GLANCE:

- **Real-time monitoring:** Detailed information about the status of the scrapers and belt damage detection, centrally organized in the control room
- **Less downtime:** prevention of faults and interruptions early in the production process
- **Optimized process control:** real-time status signals of the Smart Scraper including predictive maintenance
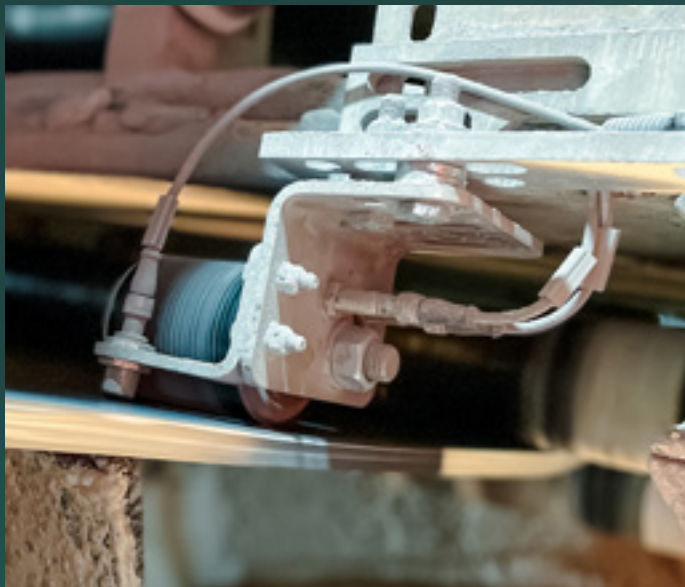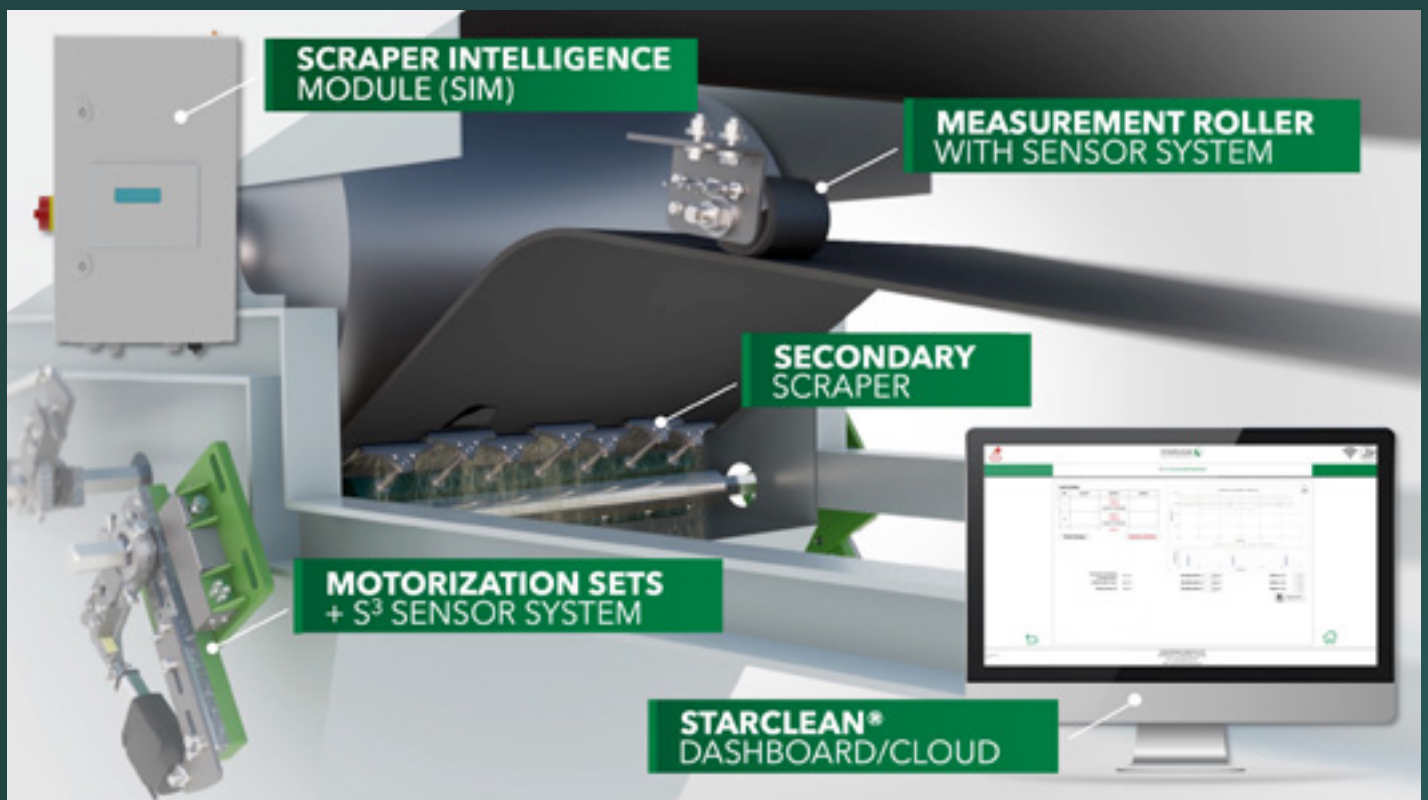- **Cost savings:** less unplanned downtime, more efficient processes

The integration of our data in the control room ensures process **reliability, efficiency, and transparency** in your production.

OUTPUT SIGNALS:

- Belt damage reports, levels 1–3
- Fault message (speed monitoring, position monitoring, measurement monitoring, control and linear drive fault message)
- Cleaning position (cleaning yes/no)
- Wear volume of the scrapers less than 20%
- Communication status
- **More signals are possible**

TECHNICAL SPECIFICATIONS:

- Power supply 100–240 VAC
- 50/60 Hz
- Outputs potential-free contacts
- Installation up to 150 m from the SIM

SCRAPER INTELLIGENCE MODULE (SIM)

MEASUREMENT ROLLER WITH SENSOR SYSTEM

SECONDARY SCRAPER

MOTORIZATION SETS + S³ SENSOR SYSTEM

STARCLEAN® DASHBOARD/CLOUD

HEROES
OF SPILLAGE CONTROL

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