



Customer
Success
Story

We pioneer motion

Predictive monitoring saves around 200,000 USD per hour

One of the largest coal mining operators in Southeast Asia, Adaro Indonesia produces around 50 million tons of coal annually. The bearings of the conveyor belts of the open pit mining company are highly stressed in the process. To avoid unplanned downtime here, the maintenance team opts for the condition monitoring solution with SmartCheck and the associated software.

The result: per hour, a production loss of 200,000 USD for each production line is prevented and safety for the maintenance team is enhanced.

Customer benefits

- Safe condition monitoring in real time
- Less unplanned downtimes
- Early detection of bearing defects
- Reduced risk of injury for maintenance team
- Centralized monitoring of all conveyor bearings
- Intelligible data for diagnosis
- Enhanced planning of resources and inventory

medias.schaeffler.de/en/success-stories

adaro 

Customer

PT. Adaro Indonesia,
Southeast Asia

Sector

Mining

Application

Conveyor bearings

Solution

Condition Monitoring

SCHAEFFLER

What drives our customer ...



Open pit mining

Challenge

Adaro Indonesia operates in a harsh & severe environment. It is important to keep the conveyor belts in good working condition to ensure minimal disruption to daily production. As such, availability of conveyor belt bearings is crucial to maximize up-time.

The problem: The bearings are located in places that are difficult to access. Regular maintenance is always time-consuming and also dangerous. For this reason, the open pit mining company was looking for a predictive condition monitoring solution that would minimize annual maintenance and avoid safety risks and unplanned downtime.

Additional information on the coal mined

Adaro Indonesia mainly mines subbituminous coal. This is one of the low grades of coal containing about 35-45 percent carbon. The properties of this type are between those of lignite, the lowest coal type, and bituminous coal, the second highest coal type. Subbituminous coal is mainly used as a fuel for steam electricity generation.

Subbituminous coals have a sulfur content of less than 1 percent by weight, which makes them an attractive choice for power plants to reduce SO₂ emissions. For this reason this type of coal is also classified as „clean.“

It should be considered that this type of coal must be densely packed to avoid spontaneous combustion.



Technical information – conveyor belt

Raw material supplied	Coal
Capacity	3000 Ton per hour
Capacity	~ 50 Million tons per year
Bearing	Spherical roller bearing with tapered bore
Bearing housing	Split plummer block housings

What Schaeffler offers ...

Solution

Schaeffler's experts recommended the condition monitoring solution with SmartCheck. The robust monitoring system detects deviations and changes in vibration behavior. Bearing damage is thus detected at an early stage, which can prevent an unplanned shutdown.

Six SmartChecks were installed on the conveyor belts. The vibration sensors are connected to a local network, enabling central monitoring from the control room.

As a result, time-based maintenance routine is converted to „as-and-when-needed“, increasing efficient utilization of manpower.



Schaeffler Software Smart Utility

What's special

The ease of use of the Schaeffler Smart Utility software does not require expert knowledge in vibration analysis. Thus, engineers without vibration knowledge will be able to pick up analysis knowledge and skills faster, and can then make informed decisions.

The customer's satisfaction is expressed by Schaeffler engineer Chris Y. Hardianto:

Thanks to SmartCheck, a production loss of around 200,000 USD per hour was prevented for each of the customer's 3 production lines. Adaro Indonesia is impressed and absolutely satisfied.



Technical information for SmartCheck

Monitoring system	6 Schaeffler SmartChecks
Data exchange	via OPC/UA
Monitored units	Conveyor belt bearings
Monitored operating parameters	Vibration, temperature, speed
Method of diagnosis	Speed, acceleration and envelope
Status display	Visualization in customer's control room



SmartCheck installed on bearing housing



SmartCheck installed on bearing housing



Bearing fault previously located on the housing

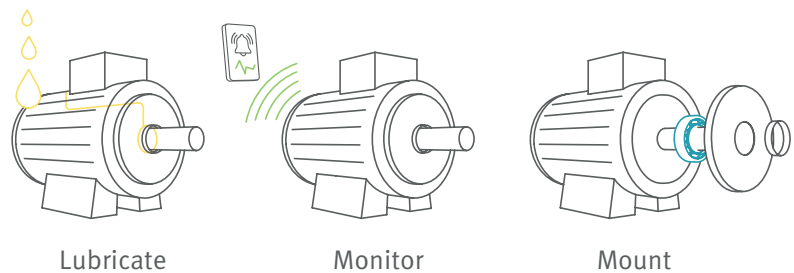
What else Schaeffler has to report ...



Always an overview of the machines with SmartCheck and associated software

SmartCheck 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 engineers throughout a machine's entire lifetime.

www.schaeffler.de/en/lifetime-solutions



Why Schaeffler?

- Technical expertise
- Friendly and knowledgeable customer service
- Quick and easy installation

Why this specific solution?

- Precise machine condition data
- Easy, intuitive operation
- Automated learning mode

Customer

Adaro is a global coal mining and energy company in the region of Southeast Asia.

In the Southeast Asian region, Adaro strives to be a leading mining and energy company.

In 2020, it produced more than 54 million tons of coal. The coal mining and energy company employs more than 9,700 people.



Engaged employees at Adaro