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VOITH

Next level conveyor performance
Voith BeltGenius ERIC

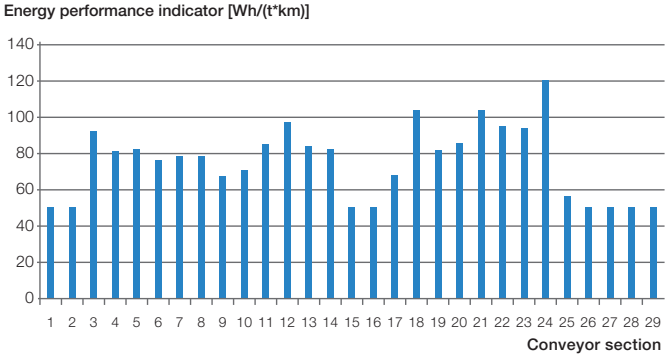
Voith BeltGenius is the product family that is used for monitoring, benchmarking and optimization of belt conveyors and conveying systems. Now, mines can get a complete picture of their system's performance with our intelligent sensor and software technologies. You can reduce maintenance frequency, unexpected downtime and total material transport costs considerably. Furthermore, Voith BeltGenius is also helping mines reduce their CO_2 footprint.

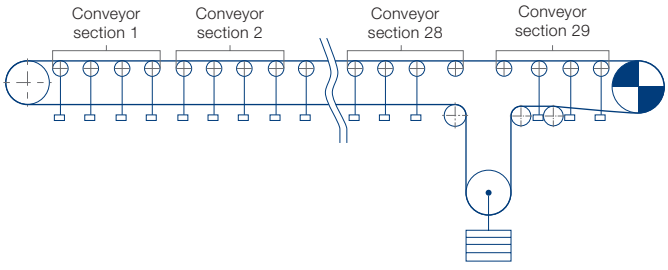
The mining industry is facing serious challenges including decreasing ore concentrations, rough weather conditions at remote locations and a growing interest in environmental protection. Volatile raw material prices are also exerting economic pressure on mines. The industry needs new digitized solutions to address these challenges and increase productivity.

At its core, BeltGenius ERIC is a sophisticated digital twin of your belt conveyor. ERIC stands for Efficiency & Reliability Intelligence Control. This digital twin processes sensor data in real-time to calculate the energy performance indicator (EnPI) of your conveyors, revealing opportunities to improve performance. What's more, you also get the opportunity to identify failures in advance, which increases system uptime. BeltGenius ALEX is another innovative Voith solution that helps you improve the performance of your conveyor systems. With ALEX, you'll have perfectly aligned belt conveyors, which enhance performance and reduce your total cost of ownership.

Conveyor energy efficiency

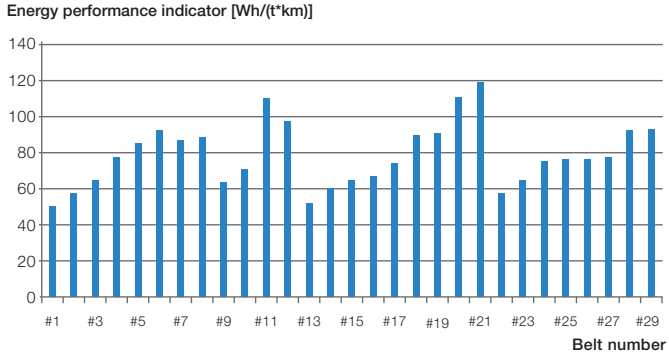
Real-time data transfer and processing provides operators with a dashboard showing the current performance of each conveyor section as its EnPI, which is defined as Wh/(t*km). If the EnPI changes abruptly – it indicates a malfunction – the system then issues an alert.

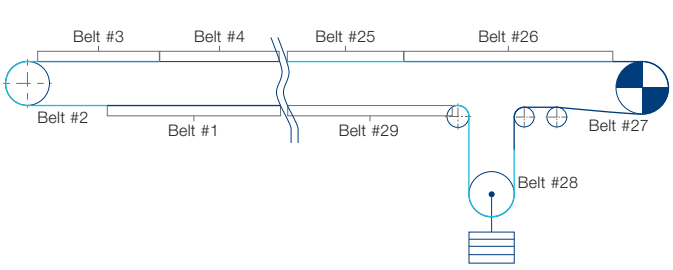




Belt segment performance monitor

Conveyor belts often include belt segments of varying quality and from multiple manufacturers. The digital twin calculates energy consumption [Wh/(t*km)] for each belt segment individually using the attached RFID tags. The result is clear performance information for each belt type used in the conveyor.





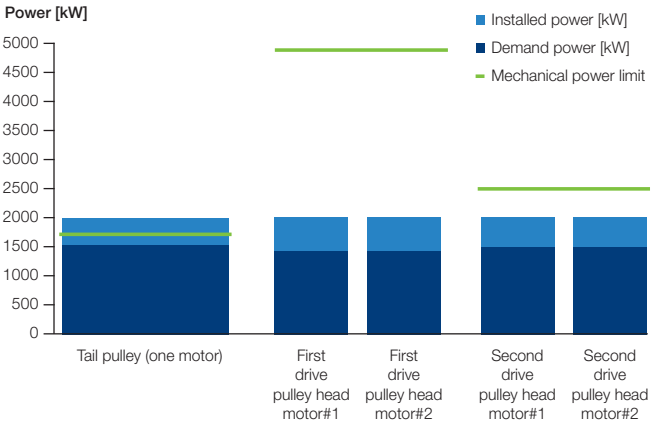
“BeltGenius ERIC is a breakthrough innovation not only focusing on maintenance and condition monitoring, but providing a completely transparent benchmarking platform for mining companies.”

Dr. Manfred Ziegler, VP Engineering Belt Conveyor

Feasible capacity monitor

The ERIC digital twin constantly calculates the physical torque transmission capability of each drive pulley. The dashboard shows the current load reserve before electrical or mechanical (slippage) overload occurs. This allows the conveyor to operate at maximum mechanical and electrical capacity. All while ERIC protects the pulleys and belt against slippage, which can considerably reduce the service life.

Feasible capacity monitor



Features

- Digital twin for belt conveyors
- Durable RFID tags and antenna
- Secure Voith cloud services
- Real-time dashboard@customer
- Benchmarking for belting
- Benchmarking for conveyors
- Compliance with ISO 50001
- Reserve against overload calculation

Benefits

+ Full transparency of energy efficiency in conveying systems
+ Failure prediction capability
+ Extends service life of major components such as drives and belts
+ Significant and sustainable reduction of bulk material transportation costs

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