



Company News

## **Harnessing the Power of Industry 4.0 to drive increased Safety and Efficiency in Maintenance**

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*Leipzig, Germany -*

As part of its ongoing series of intelligent solutions for increased safety and efficiency in maintenance, TAKRAF shows how automation and monitoring of mining machines and systems eliminates the need for compromise and demonstrates how safety and efficiency can complement each other.



A TAKRAF Group specialist wearing smart glasses that can connect experts in the office with maintenance or client staff in the field talking to a customer representative. (Picture: ©TAKRAF GmbH)

Bulk material handling systems are the 'lifeline' of a mining operation, connecting the mine to processing plant and ultimately the market through the reliable and efficient movement and storage of materials. Due to such interconnectivity, any bottleneck or stoppage along any part of the chain negatively impacts productivity, making maintenance of paramount importance. As a result, TAKRAF Group has been developing automated solutions across its mining, material handling and minerals processing offering that can support safe and efficient maintenance activities to the maximum extent.

Using available technologies, a number of features are implemented as standard on TAKRAF mining industry equipment and solutions, or can be made available as add-ons on request. These include:

- PLC/DCS-based machine control systems with machine and equipment protection functions that assist with avoidance of operator error and troubleshooting activities, and feature:
  - Data exchange with client's asset management, ERP and MES systems for the planning of preventive maintenance activities.
  - Remote access to the machine control systems, assisting local maintenance staff with software modification and maintenance.
- Remote support solutions via:
  - Extensive independent machine data collection, edge computing and transfer of pre-selected data to TAKRAF in Germany or elsewhere in the world for analysis by TAKRAF specialists.
  - Web-based dashboards to provide clients with high-level indications of the machine/system's key performance indicators, including when maintenance activities are due.
  - Remote support of maintenance activities by TAKRAF Group specialists worldwide through the use of smart glasses to connect experts in the office with clients' maintenance staff on site.
  - Use of intelligent augmented reality (AR)-based tools for maintenance support.
- Facilitation of condition-oriented preventive or predictive maintenance strategies through:
  - Condition monitoring sensors and comprehensive analysis tools (on-line and offline).
  - Application of the latest smart condition monitoring instruments to monitor idler bearings, drive parameters, belt thickness and surface and splice condition, amongst others.

- Implementation of intelligent, safe lock-out procedures to shorten the time required for troubleshooting and maintenance activities as maintenance personnel can safely lock out the power supply to machines in the field.

“By harnessing the power of Industry 4.0, TAKRAF Group is making the benefits of data, automation and connectivity available to its customers to drive profitability, efficiency and, most importantly, safety,” says Thomas Jabs, TAKRAF Group CEO. “For example, developments such as IIoT devices and sensors that collect real-time data enable remote monitoring and predictive maintenance, while AR is revolutionizing maintenance processes by providing immersive experiences that allow workers to receive real-time guidance.”