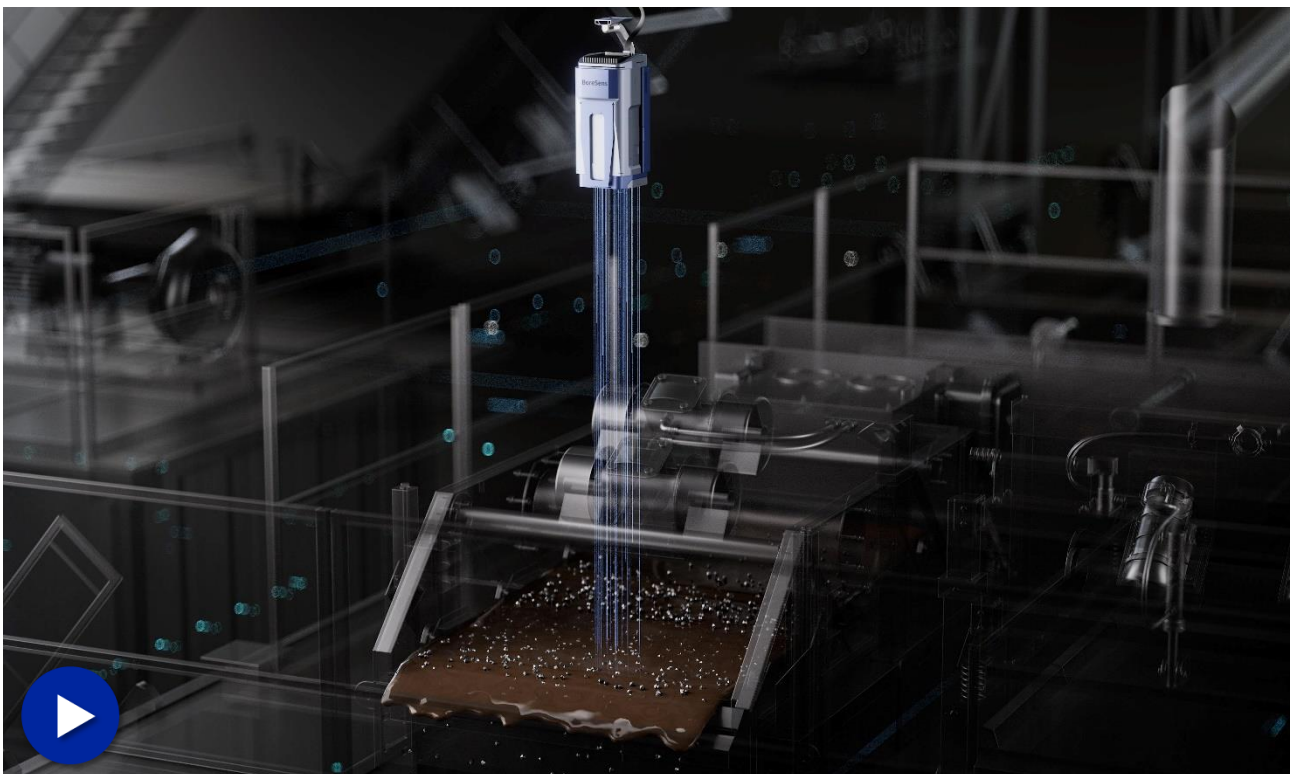


BoreSens Real-Time Wellbore Monitoring System

Vertechs BoreSens Real-Time Wellbore Monitoring System is a cutting-edge solution that integrates advanced technologies into an intelligent data acquisition and real-time analytics platform. Utilizing state-of-the-art object detection via Light Detection and Ranging (Lidar) technology, coupled with sophisticated deep learning models, the system provides comprehensive data processing, storage, and visualization capabilities. The Key functionalities include real-time parameter display, AI-driven analysis for early warning systems, Quantitative assessment of wellbore cleaning efficiency and Dynamic stability analysis for enhanced operational safety. By leveraging real-time monitoring and innovative image recognition techniques, BoreSens captures critical characteristics of returned cuttings. This capability enables dynamic wellbore stability forecasting by correlating collected data with geological formations and drilling parameters. Ultimately, the system empowers operators to make informed decisions, ensuring safe and efficient drilling operations through continuous monitoring and predictive analytics.



FEATURES

- 24/7 monitoring of cutting size and particle size distribution (PSD) via AI image analysis and continuously iterates the deep - learning model
- Real-time evaluation of borehole cleaning efficiency and provision of tripping recommendations by analyzing PSD trends in combination with drilling parameters
- Supports fully private deployment to ensure 100% data security
- Operates as an independent system, transmitting time-series data via WITS protocol and supporting the integration with various drilling systems.

BENEFITS

- Real-time monitoring and identification of returned cuttings characteristics, providing abnormality alerts to effectively reduce borehole instability risks
- Reducing unnecessary pre-tripping circulation and shortening rig operation time based on intelligent evaluation of borehole cleaning efficiency
- Combining formation and drilling data, leveraging PSD trend data and cuttings video playback to assist in in-depth analysis of borehole instability issues and facilitate the evaluation of bit performance and formation conditions

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