

# SnapScan

Rapid bit grading application



Delivers high-quality bit information efficiently to enable accurate operations and business decisions

## How it improves performance

SnapScan™ rapid bit grading application delivers high-quality IADC dull grading through an AI mobile application. The application collects accurate cutter-by-cutter dull grade information and is connected to drilling metadata from a drilling records database, enabling drillers to make more accurate, efficient business decisions. The application enhances bit development when considering forensics data for objective cutter damage characterization and drives technology development.

## How it works

SnapScan application is trained on more than 20,000 images, which classify cutter primary characteristics into worn cutter, chipped cutter, broken cutter, spalled cutter, delaminated, bond failure, lost cutter, and others. The photographic digital dull information is incorporated into workflows, enabling rapid improvement in cutting structure and cutter development life cycles with corresponding rapid improvements in drilling performance.

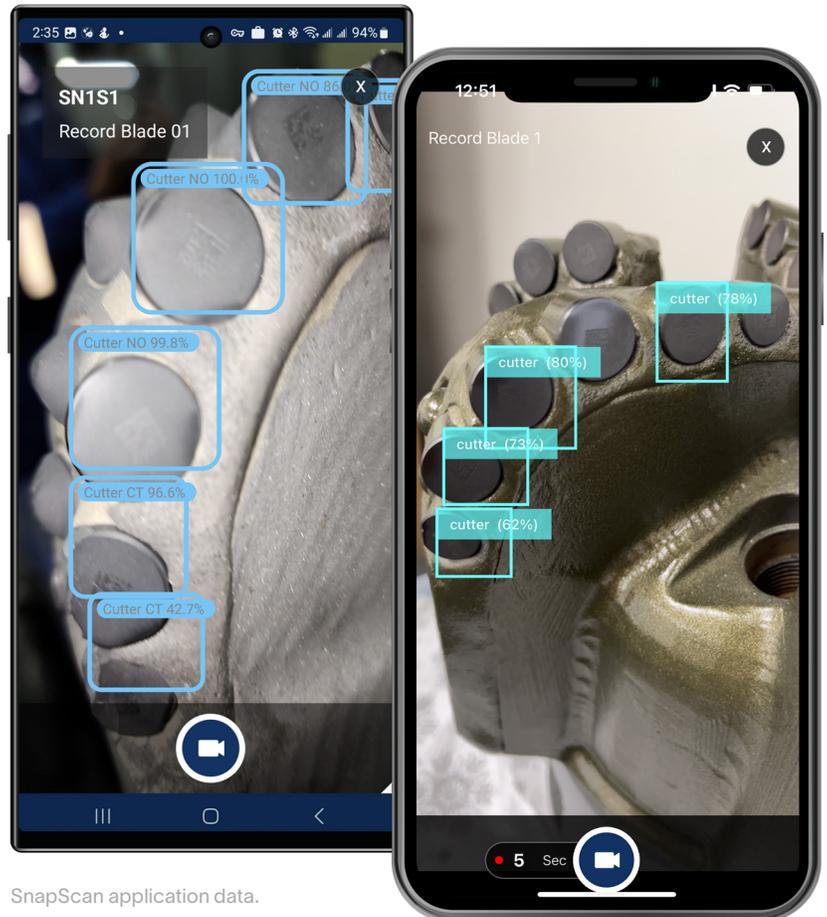
## SnapScan application platforms

SnapScan technology consists of five main platforms: digital acquisition system, empowered analysis of digital inputs, 360-degree integrated view, big data analytics, and AI-driven optimization and recommendation capabilities. All data captured is uploaded to the cloud, where the algorithm digests cutter information, records, and support analytics. The information is delivered through a mobile application, which can generate a bit report. A dedicated web-based tenant platform performs further data management.

From capturing to reporting, mobile data and machine learning processing enhances the following:

### Data integration

This platform aligns cutter-by-cutter dull grading and pictures with bit, well, and run information for each bit run. The information can be from any drilling record system, surface rig, and downhole data. The entire created database is available for export.



SnapScan application data.

## Operations insight

The operations insight platform facilitates decision making for resources planning and utilization. For each used drill bit, drillers can observe forensic details related to drilling procedures and downhole dynamic behaviors. Combined with application-specific information, the platform enables more accurate business decisions regarding drilling parameters, design options, or material selection.

## Cutter selection insight

The performance and behavior in different drilling environments promote an exclusive method to evaluate, select, and develop cutter technology. With systematic and proper method for data capture and storage, it enables qualified observations and interpretation.

## Design planning insight

The integration with existing drilling databases enables the further qualification of results for proper planning of upcoming campaigns. Drillers can connect the physical attributes of used cutters to existing downhole data and plan for any changes in drilling procedures or drillbit designs based on extensive forensic and digital data.