Automate Visual Forensics with BitBox

What is BitBox?

BitBox is the world's only portable, mobile-friendly, fully automated and fully managed solution to analyze and grade drill bits. It is part of the Teradata drilling analytics ecosystem that includes the most advanced drilling sensor data model available.

How BitBox works:

- BitBox lives directly on your drilling rig to automatically acquire high quality images of a drill bit. Regardless of rig conditions or time of day, BitBox can deliver meaningful forensic analysis to keep your rig working and support drilling optimization.

- After combining hundreds of images into a 3D mesh.

- Powered by Teradata Vantage™, BitBox gets the right data to the right people, in the right place at the right time.
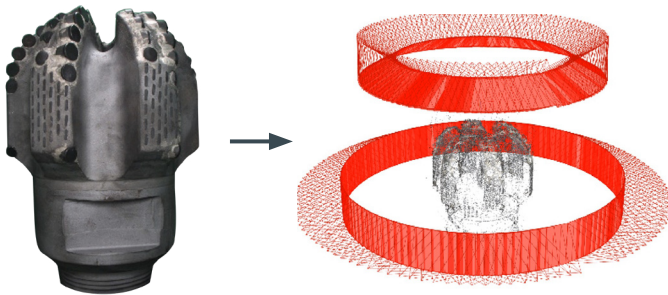

Figure 1. Using a patented method, BitBox acquires many high definition images of bits. After stitching them together, a 3D model is constructed which allows for very accurate feature detection and analysis.
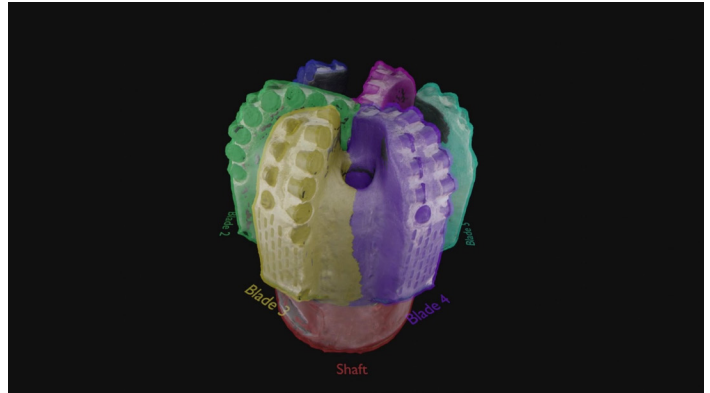

Figure 2. The primary topology is identified including the blades, shaft, nose, shoulders, jet nozzles, and junk slots.
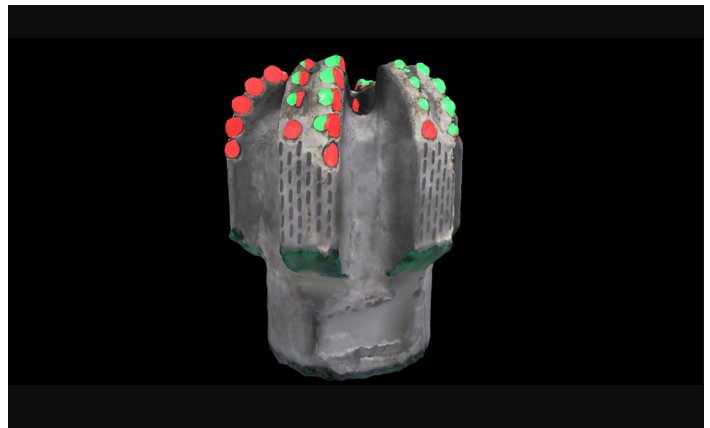

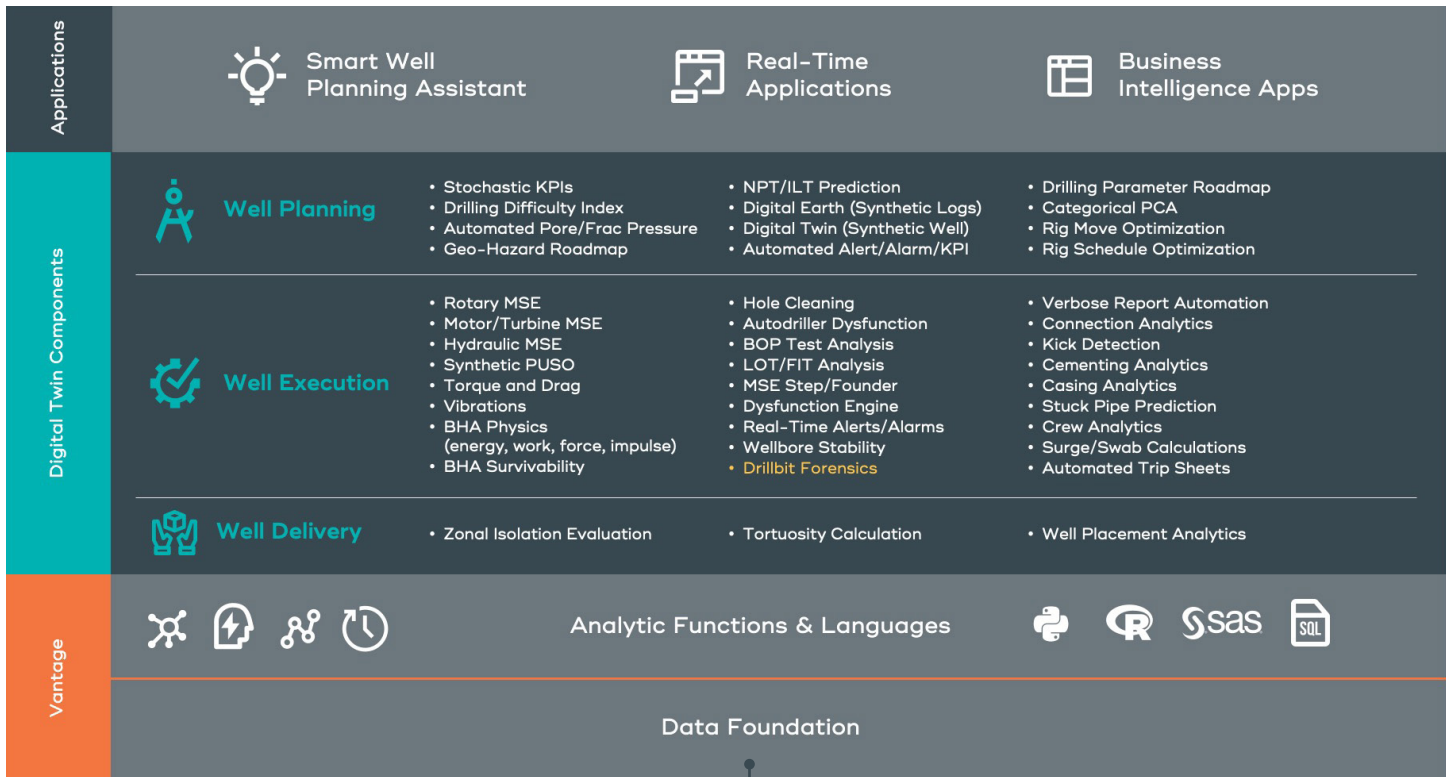**Figure 3.** Each cutter is identified and is separated into the cutting structure and substrate. The quality and repeatability of the BitBox process allows for precise measurement of wear and for detailed examination of cutter failure modes.

How to buy BitBox:

Rented per rig, per day. For detailed pricing, a formal assessment or more information, contact **nathan.zenero@teradata.com**.
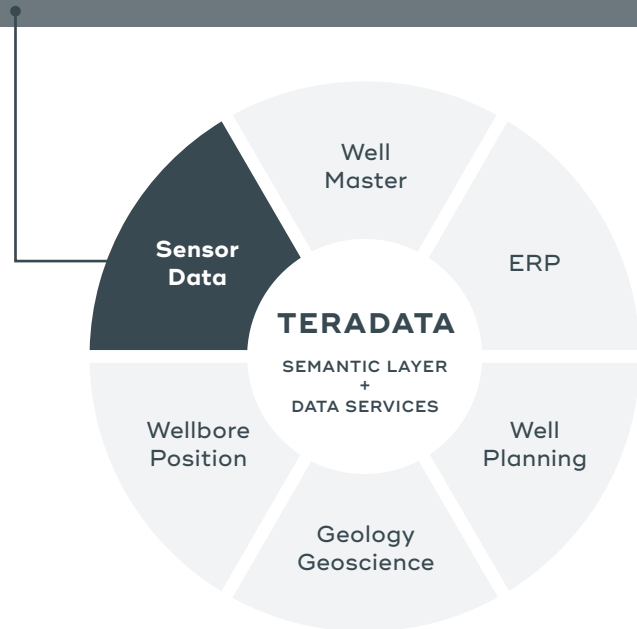
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Drilling Analytics Ecosystem

		Smart Well Planning Assistant	Real-Time Applications	Business Intelligence Apps
Applications				
Digital Twin Components	**Well Planning**	• Stochastic KPIs • Drilling Difficulty Index • Automated Pore/Frac Pressure • Geo-Hazard Roadmap	• NPT/ILT Prediction • Digital Earth (Synthetic Logs) • Digital Twin (Synthetic Well) • Automated Alert/Alarm/KPI	• Drilling Parameter Roadmap • Categorical PCA • Rig Move Optimization • Rig Schedule Optimization
	Well Execution	• Rotary MSE • Motor/Turbine MSE • Hydraulic MSE • Synthetic PUSO • Torque and Drag • Vibrations • BHA Physics (energy, work, force, impulse) • BHA Survivability	• Hole Cleaning • Autodriller Dysfunction • BOP Test Analysis • LOT/FIT Analysis • MSE Step/Founder • Dysfunction Engine • Real-Time Alerts/Alarms • Wellbore Stability • Drillbit Forensics	• Verbose Report Automation • Connection Analytics • Kick Detection • Cementing Analytics • Casing Analytics • Stuck Pipe Prediction • Crew Analytics • Surge/Swab Calculations • Automated Trip Sheets
	Well Delivery	• Zonal Isolation Evaluation	• Tortuosity Calculation	• Well Placement Analytics
Vantage		Analytic Functions & Languages		
		Data Foundation		

How BitBox helps your business:

- Standardizes: Combat the fact that up to 50% of all bit grades may be inaccurate and unsuitable for analytics.

- Simplifies: Easy to use, even in harsh or chaotic environments

- Optimizes resources: allows your most valuable resource, your people, to be used for the most important tasks of safety and productivity

- Delivers fast results: Reduces the amount of handling and makes analysis happen at the speed of the business, regardless of physical location

- Ensures safety: Reduces shipping and handling of drill bits by doing analysis as close to the process as possible

- Maintains transparency: Teradata is an objective 3rd party in grading/analyzing drill bits. We have no vested interest in bit selection, design or manufacture. Our sole interest is in providing objective, accurate forensic analysis.

Sensor Data

Well Master

ERP

TERADATA
SEMANTIC LAYER
+
DATA SERVICES

Well Planning

Geology Geoscience

Wellbore Position

teradata.

About Teradata

With all the investments made in analytics, it's time to stop buying into partial solutions that overpromise and underdeliver. It's time to invest in answers. Only Teradata leverages all of the data, all of the time, so you can analyze anything, deploy anywhere, and deliver analytics that matter most to your business. And we do it on-premises, in the cloud, or anywhere in between. We call this pervasive data intelligence. It's the answer to the complexity, cost and inadequacy of today's analytics. And how we transform how businesses work and people live through the power of data. Get the answer at **Teradata.com**.

What is Teradata Vantage?

The first and only of its kind, Vantage is the leading cloud data analytics software that helps you manage all of the data, all of the time, while delivering analytics that matter. Vantage offers full integration with your favorite tools and languages, leading analytics engines, and new sources of data to deliver the answers you need to create better business outcomes.

- Amplify your analytics
  - Explicitly Parallel and Ultra High Performing Math at Scale
  - AI and Machine Learning Engines
  - Most capable platform available

- Become agnostic to:
  - **Data:** can connect everything with QueryGrid
  - **Cloud:** same software, same price on AWS, Azure, or Google
  - **Scale:** no software bottlenecks, scale as complexity and criticality demand
  - **Tools:** use any analytics tools or visualizations

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