

# DBOS OnTime

## Real-time drilling optimization service

### APPLICATIONS

- Offshore and onshore drilling
- Well development and exploration

### BENEFITS

- Improves consistency of drilling performance
- Reduces drilling costs through accurate monitoring of ROP, bit, and life of downhole tools

### FEATURES

- Artificial neural network (ANN) drilling parameter optimization
- Visual real-time display of optimized drilling parameters
- Continuous model recalibration to adjust to real-time parameters and downhole environments
- Proprietary look-ahead capability

The DBOS OnTime\* real-time drilling optimization service provides rigsite personnel with optimization information to ensure maximum footage and ROP. From 24/7 monitoring of downhole parameters to providing look-ahead capabilities that identify upcoming hazards, the DBOS OnTime service enables improved and consistent drilling performance.

### Real-time performance management

The DBOS OnTime service monitors and analyzes offset run data in real time to determine optimal parameters for both current and upcoming environments. Real-time data from the service is processed, and performance recommendations are then streamed back to the crew on the rig floor.

The DBOS OnTime service uses an ANN to help understand how geological properties and data from offset wells affect ROP and bit wear. The service gathers and interprets data such as well logs, formation top locations, mud logs, rock mechanics, core analysis, bit records, real-time drilling parameters, dull grading condition, and survey data from more than 30,000 wells around the world. This approach enables better drilling performance based on data from previously drilled wells.

In the field, the service can provide mapping studies and regional trend analyses to deliver a detailed report that includes data on rock strength, lithology-normalized porosity, abrasion characteristics, potential impact on cutting structures, energy and mechanical factors, possible hydraulics configurations, statistical interval analysis, well correlation, and 3D field mapping.

Additionally, using the IDEAS\* integrated dynamic design and analysis platform and the i-DRILL\* integrated dynamic system analysis service, the DBOS OnTime service is able to predict future BHA behavior and associated drilling parameters to keep up with process changes. After the run, operation data can be assessed and a detailed postrun analysis can be delivered.

### Planned run simulation, ANN, and real-time optimization

While data from the DBOS OnTime service is streamed in real time via the InterACT\* global connectivity, collaboration, and information service, performance recommendations and their results are monitored so that the driller can get feedback on how to properly execute recommended drilling parameters.

The look-ahead capability of the DBOS OnTime service enables constant improvement of drilling performance and a significant reduction in drilling costs.

	Real-Time Performance Management				Pre- and Postjob Analysis		
<b>Tier 1</b>	Daily KPI reporting	Full expertise package with PERFORM Toolkit* data optimization and analysis software, support from Operations Support Center, and DBOS OnTime service		Integrated service with operational support center, 24/7 real-time monitoring, analysis, and advice	Prerun road map, hazard identification, and mitigation recommendations	Postrun review and redrill services	Simulated BHA behavior
<b>Tier 2 Analyze and advise</b>	Daily KPI reporting	Real-time streaming and display of optimization parameters to the rig floor		24/7 real-time monitoring, analysis, and advice	Prerun road map, hazard identification, and mitigation recommendations	Postrun review and redrill services	Simulated BHA behavior prediction
<b>Tier 3 Advise</b>	Daily KPI reporting	Real-time streaming and display of optimization parameters to the rig floor		12/7 advice	Pre-drill analysis and road map	Postrun review and redrill services	na
<b>Tier 4 Plan and review</b>	na				Pre-drill analysis and road map	Postrun review and redrill services	na
<b>Additional services</b>	Bit wear and ROP predictor	Offset wells performance analysis	Postrun and postwell analysis	Normalized bit performance comparison	Techlog* wellbore software platform modeling and 3D mapping	"What-if" analysis	I-DRILL service and IDEAS platform: entire BHA behavior prediction