

xOptim™DrL – Advanced Drilling Optimization & Performance Intelligence Software

Developed by SEDA Group’s drilling and well engineering team, xOptim™DrL is a nextgeneration drilling optimization and realtime performance intelligence software designed to maximize drilling efficiency, reduce nonproductive time (NPT), optimize rate of penetration (ROP), and enhance wellbore integrity.

xOptim™DrL leverages an automated drilling operations recognition engine that uses highfrequency rig sensor data to automatically classify and interpret drilling activities, uncover hidden inefficiencies, and eliminate the need for manual activity tagging. This capability provides objective, realtime insight into drilling performance and operational bottlenecks.

Key Capabilities

Drilling Progress Recognition

Automated identification of drilling phases and progress using rig measurement data, enabling accurate performance tracking without manual reporting.

RealTime Activity Recognition with KPIs

Continuous, automated classification of drilling activities—including drilling, tripping, reaming, circulation, and connections—while tracking key performance indicators (KPIs) for each activity:

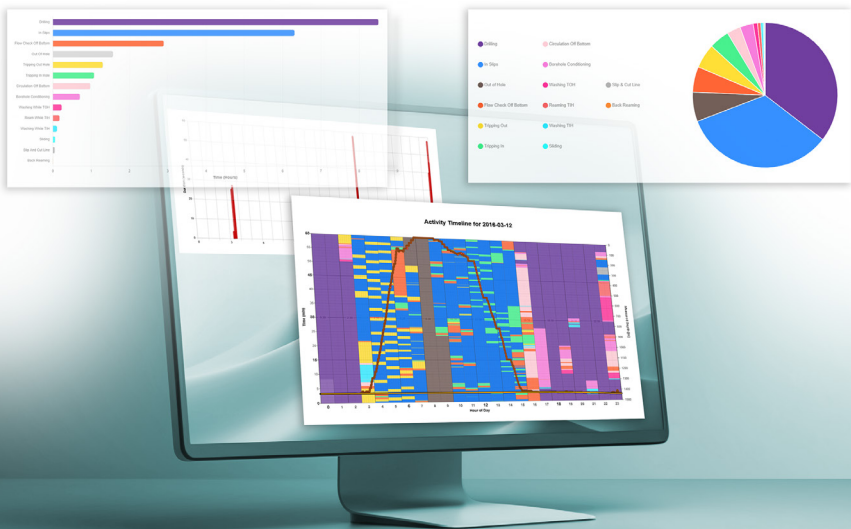
- Drilling: ROP, WOB efficiency, torque utilization, hydraulics efficiency
- Tripping: Trip time, connection time, risk of stuck pipe
- Reaming: Hole cleaning efficiency, ROP during reaming, torque and drag trends
- Circulation: Pump efficiency, flow rate, cuttings transport, equivalent circulating density (ECD)
- Connections: Connection time, rig efficiency, NPT contribution

NPT Detection and Time Classification

Automatic detection, timing, and grouping of NonProductive Time (NPT) events for rapid rootcause analysis and optimization.

Invisible Lost Time (ILT*) Analysis

Advanced analytics to detect and quantify Invisible Lost Time (ILT)—hidden inefficiencies occurring during operations that appear productive—revealing performance losses beyond conventional NPT metrics.



Real-time Drilling Engineering Intelligence

Hydraulics and Hole Cleaning Evaluation

Real-time assessment of drilling hydraulics, cuttings transport, and hole-cleaning quality to reduce pack-off, stuck pipe, and circulation issues.

Torque and Drag Analysis

Continuous torque and drag monitoring with early warning indicators to detect abnormal trends and optimize drilling parameters.

Buckling Prevention and Wellbore Stability Monitoring

Predictive analysis to mitigate drillstring buckling risks and support proactive wellbore stability management in extended-reach and complex trajectories.

ROP Optimization

Intelligent analysis of drilling parameters and formation responses to maximize rate of penetration (ROP) safely while maintaining wellbore integrity.

Automation and Reporting

Automated Daily Drilling Activity Reporting

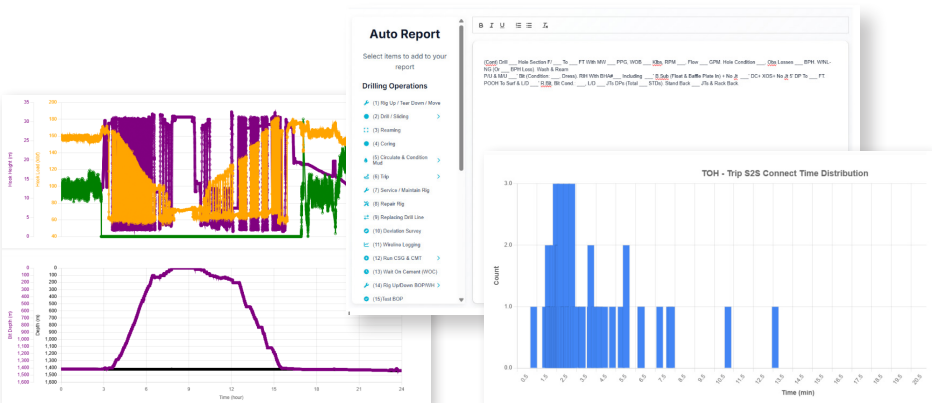
Generation of high-quality daily drilling reports, including activity timelines, KPIs for each operation, NPT and ILT summaries, ROP trends, and actionable insights—significantly reducing manual reporting effort.

Data Integration and Scalability

Engineered for high-frequency rig data ingestion with robust data validation and scalable deployment from single-well monitoring to portfolio-wide operations.

Key Benefits

- Reduced NPT and Invisible Lost Time
- Optimized ROP and improved drilling efficiency
- Real-time operational visibility with KPIs for each activity
- Lower drilling risks and improved wellbore quality
- Automated, standardized reporting and performance benchmarking



xOptim™ DrL – Transforming Drilling Data into Objective Performance Intelligence
 Developed by SEDA Group, Texas, USA

