



# Ensure safe, efficient tripping operations with automated monitoring, advisory, and control

## i-Trak automated tripping optimization service

The i-Trak™ tripping optimization service from Baker Hughes automates tripping processes to let you safely maximize your pipe-tripping speeds while minimizing the risk of swab or surge events—protecting your wellbore while helping save you time and money.

Tripping takes up approximately 30% of well construction time on most wells. The i-Trak tripping optimization service safeguards against non-productive time (NPT) and reduces invisible lost time (ILT) during tripping by automatically monitoring, prescriptively advising, and helping control off-bottom movements of drilling and non-drilling assemblies at all depths and phases of the well-construction process.

### IMPROVE TRIPPING SPEED, EFFICIENCY

The service automatically tracks and compares actual tripping speeds against a simulated optimal speed limit. It calculates this optimal speed by accessing a digital twin that's updated in real-time using the latest sensor measurements (e.g., surface flow-in values, mud properties, etc.) from the well and rig. Using these data, the service automatically calculates and updates speed and acceleration limits to guarantee all recommendations are operationally relevant.

Then, the i-Trak service intuitively visualizes the optimal speed and the maximum acceleration limits, flow-in rates, and

actual trip speeds. If actual trip speeds and/or acceleration exceed the established limits then the system will automatically alert the field service engineer to make the necessary changes to avoid a swab-surge event.

### ENSURE SAFE, CONSISTENT OPERATIONS

This service automatically calculates optimum trip speeds for each direction (run-in or pull-out-of-hole) and operational scenario (pumps-on/pumps-off) at any point in time by leveraging the digital twin and applying a configurable safety margin to the trip speed limit. When the i-Trak service is connected directly to a rig's control system, the driller will have greater control of tripping constraints by allowing the service to establish an optimum trip-speed value for the block velocity then automatically issue acceleration set points to the rig control system.

The i-Trak tripping optimization service also compensates for pressure and temperature effects in any wellbore environment. As a result, the service offers safe, automated tripping control in deepwater, high-temperature and high-pressure (HP-HT), and managed-pressure drilling (MPD) applications.

Contact your Baker Hughes representative to learn how the i-Trak tripping optimization service can deliver real value on your next well-construction project.

### APPLICATIONS

- Drilling operations prone to tripping-related NPT
- MPD operations
- Tripping operations in wells and formations with a high risk of surge- and swab-related failures
- Deepwater and high-temperature wells
- High spread-rate wells where ILT reduction is critical

### BENEFITS

- Protects against fractured formations, fluid losses, kicks, breakouts, and hole collapse
- Maximizes tripping speeds safely and consistently
- Minimizes NPT and ILT
- Improves visualization for faster, better decision-making