



i-Trak drilling automation services

Get safe, consistent, predictable, drilling performance

i-Trak™ drilling automation services

from Baker Hughes reduce operational risk and well delivery costs by integrating and automating drilling systems.

In today's complex drilling environment where surface and downhole real-time systems must deliver according to plan in a consistent, reliable, and safe manner, automation of drilling systems is crucial. The drive to move personnel from wellsite red zones to productive decision-making remote centers further supports the integration and automation of drilling systems.

i-Trak drilling automation services improve drilling performance, wellbore quality and trajectory; extend bit life; reduce nonproductive time to deliver wells faster and more economically; while reducing operational risk to enable de-manning at the rigsite. These benefits are achieved by aggregating real-time surface and downhole data, including drilling dynamics data from the Baker Hughes **CoPilot™ measurement-while-drilling service**, and using hybrid physics-based and data-driven models, in combination with automated standardized operating procedures and checklists.

i-Trak drilling automation services deliver in three critical areas: automated trajectory drilling providing fully closed loop-control of Baker Hughes rotary steerable assemblies, wellbore hydraulics and static loads, and drilling dynamics.

i-Trak services provide two levels of automated control: "advisory mode" where recommended actions or parameters are displayed to the driller who can accept or reject them, and "closed-loop mode" with parameter changes and instructions automatically downlinked to downhole tools. The driller is in the loop, and can start/stop the system at any time.

Contact your Baker Hughes representative to learn how i-Trak drilling automation services can improve performance on your next well.

Applications

- Wells with inefficient or inconsistent drilling performance
- Wells with hole cleaning issues, stability issues, or challenging pressure windows
- Wells that must be consistently and repetitively drilled according to trajectory plan
- Wells with data overload
- Wells with decision-making remote operations

Benefits

- Consistent, predictable, safe drilling performance
- Wellbores with minimum tortuosity drilled to plan
- Wellbores with real-time stability protection
- 24-hour real-time aggregation, monitoring, and analysis of data
- Integrated drilling advice through wellsite, operator, and remote support teams

Specifications and requirements

Service	i-Trak automated trajectory drilling	i-Trak wellbore hydraulics and statics services	i-Trak drilling dynamics services
Surface system hardware requirements	Automation server running host data aggregation and i-Trak applications (19-in. rack-mount industrial PC) Baker Hughes Cadence™ surface system software Stand-alone drillers display or integrated into rig DCS software		
Automation modes	Advisory Closed-loop		
Automated trajectory drilling	i-Trak automated trajectory drilling delivers drill-to-plan closed-loop control with the AutoTrak™ G3 rotary steerable system		
Automated procedures	i-Trak drilling advisor delivers a library of automated (sensor interfaced) and manual (checklist) procedures for drilling activities		
Rig interface	Automation system based on OPC UA interoperability standard Available gateways for OPC, Modbus® and WITS		
Rig control	No direct interaction with rig hardware Set point control of constraints (e.g., running speed) Automated direct downlink control of MWD/LWD hardware		
Rig requirements	Integrated digital control system enabled for external set-point input and set-point validation against rig limits		