



# DIRECTIONAL DRILLING

## EXPERIENCE NEXT-LEVEL PERFORMANCE

H&P's directional drilling solutions leverage proprietary technology that makes intelligent, real-time decisions so that our customer-partners can be confident in the accuracy and repeatability of their drilling operations. Complex formations require customizable solutions that can simplify and automate the directional drilling process to help drive well-informed decision making both before and during drilling operations.

## OUR PROVEN TECHNOLOGY AND TRUSTED EXPERTISE DRIVE PRECISION

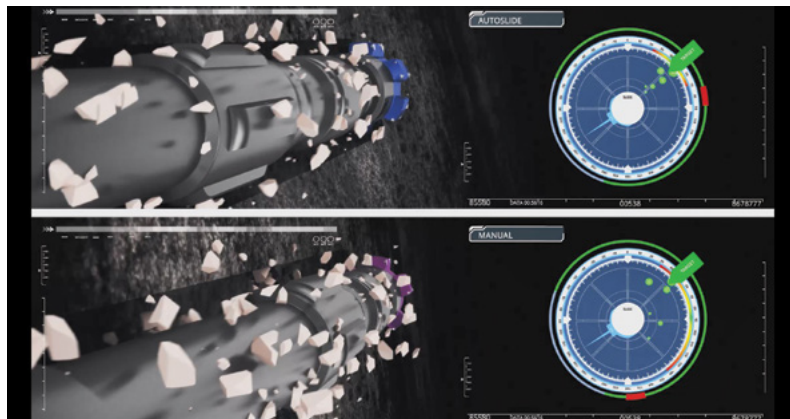
Our Bit Guidance System makes intelligent decisions based on economics, helping lower drilling costs while increasing production. The AutoSlide® automated drilling platform responds by autonomously executing slides that minimize tortuosity and sliding footage with increased precision. This combination simultaneously delivers better ROP and wellbore quality with continuous economic impact.

### Bit Guidance System Technology

- › Provides consistency in directional drilling decisions by making those decisions automatically, continuously, and in real-time
- › Inputs can be tailored for each customer's unique desired outcome
- › Delivers real-time information, like slide reports, survey reports, drilling parameters and well plan information

### AutoSlide® Technology

- › Analyzes a host of parameters including well economics, toolface data, drillstring dynamics and much more to optimize sliding and reduce your time to target
- › Provides monitoring both onsite as well as from remote operating centers
- › Controls drawworks, top drive and mud pump parameters while sliding



**AUTOSLIDE® IS A SUITE OF DRILLING SERVICES THAT AUTOMATES THE CONTROL OF SURFACE EQUIPMENT AND STEERABLE MUD MOTORS TO OPTIMIZE SLIDING IN DEVIATED AND HORIZONTAL WELL DRILLING.**

# BENEFITS OF AUTOMATED DIRECTIONAL DRILLING

## Benefits include:

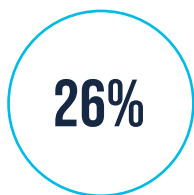
- › Increase Reservoir Contact
  - Consistently land curves in target
  - Increase accuracy by nearly two times compared to traditional methods
  - Maximize footage in target geological zone
  - Land casing at planned depth
- › Increase Drilling Reliability
  - Reduce sidetrack frequency
  - Reduce frequency of laying down casing
- › Reduce Time to Target
  - Increase rotating ROP
  - Increase slide ROP
- › Increase Production
  - Improve wellbore placement
  - Maximize frac stages by landing curve at target vertical
- › Reduce Human Variability
  - Reduction in human error when calculating and making changes during directional drilling
  - Repeatable, consistent and actionable economically driven directional drilling decisions for every well
  - Reduce variability through automated real-time course corrections

## OUTCOMES

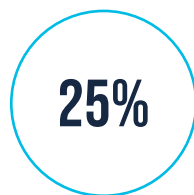
### PERFORMANCE SURPASSES KPIS: EAGLE FORD CASE STUDY

An operator in the Eagle Ford play of South Texas utilized H&P directional drilling technologies and realized immediate results.

#### TOOLFACE PRECISION



IMPROVEMENT  
IN TOOLFACE  
PRECISION IN THE  
CURVE SECTION



INCREASE IN  
TOOLFACE  
PRECISION ACROSS  
FOUR WELLS

#### PERSONNEL REDUCTION



REDUCTION IN  
ON-SITE  
DIRECTIONAL  
DRILLING  
PERSONNEL

#### CONTACT US

For more information on how our Directional Drilling Services can help you achieve better drilling outcomes, contact an H&P sales representative today or contact us through our website at [helmerichpayne.com/contact](https://www.helmerichpayne.com/contact).

**It's time to follow through on your drilling performance potential.**

PAST PERFORMANCE IS NOT A GUARANTEE OF FUTURE RESULTS. ANY STATEMENTS REGARDING PAST PERFORMANCE ARE NOT GUARANTEES OF FUTURE PERFORMANCE AND ACTUAL RESULTS MAY DIFFER MATERIALLY.