



# H&P COLLISION AVOIDANCE

## BY AUTOMATING SPEED, QUALITY, AND SAFETY H&P HELPS REDUCE TIME TO TARGET AND HUMAN VARIABILITY

You plan your well to be safe, but when deviations from plan inevitably occur an updated analysis must be performed to confirm that the new execution plan is still safe. Traditional risk management processes can sometimes work against your desired outcome by being inefficient and creating frustration. They are also dependent on human variables that require more support and can have a high level of variance or bias.

H&P Collision Avoidance provides frustration-free anti-collision analysis that does not compromise time to target due to decision delay and removes the de-manning barrier required by traditional collision avoidance systems.

### HOW DOES IT WORK?

Prior to drilling, Collision Avoidance is configured with well plans, survey programs, and all wells to be avoided.

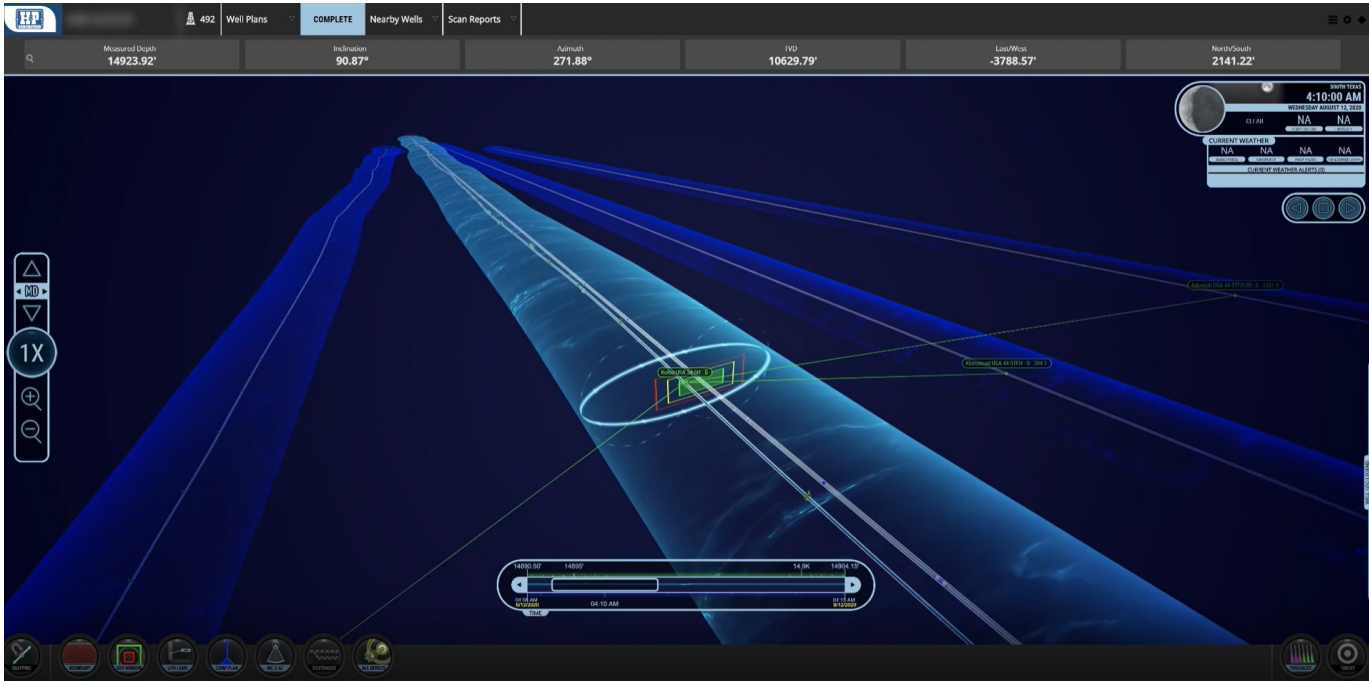
While drilling, H&P Collision Avoidance monitors the Bit Guidance System for any indication of a new convergence plan. When a new plan is detected, it pulls the updated data on the wellbore position (and its uncertainty) combining it with the convergence plan. Using this combined data set, an estimate of the risk of drilling the convergence plan is produced. If this risk is above specified tolerance levels, then alerts will appear for the rig and interested parties, so that a management of change can occur.

**THE BIT GUIDANCE SYSTEM CONVERGENCE PLAN COMBINED WITH COLLISION AVOIDANCE HELPS REDUCE HUMAN ERROR IN SLIDE DELAYS AND DRILLING THE INCORRECT PATH.**

### FRUSTRATION-FREE RISK MANAGEMENT

- Fully integrated data flows from survey to directional decisions to rig control down to the bit
- Automatically executes on the emerging industry standards for collision avoidance and helps ensure uniform implementation of your company's policy across a rig fleet
- Team of trusted advisors who help build or strengthen a collision avoidance workflow

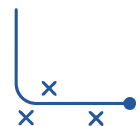
# H&P'S ADVANCED AUTOMATED DRILLING SOLUTIONS WORK IN TANDEM TO COMPREHENSIVELY ADDRESS THE CHALLENGES PREVENTING YOU FROM REACHING YOUR TARGET SAFELY, ON-TIME, AND ON-BUDGET.



**Survey Management** helps ensure that the position used for both the Bit Guidance System projections and Collision Avoidance calculations are accurate and confirm it passes quality requirements



**Bit Guidance System** estimates the bit location using the actions already performed (sliding and rotating), then it further defines the actions that will be performed for the next 300-1000 ft (called a convergence plan).



**Collision Avoidance technology** automatically takes the Bit Guidance System convergence plan and confirms if it passes the risk management anti-collision policy. If there is any need for escalation, the convergence plan is immediately flagged so special action can be taken and issues can be resolved.

## CONTACT US

For more information on how H&P Survey Management 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://helmerichpayne.com/contact).

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