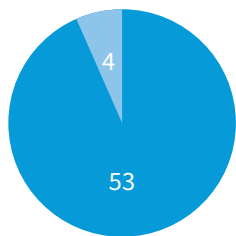# VectorZIEL and VectorEXAKT
Rotary Steerable Systems

NOV's **VectorZIEL™** and **VectorEXAKT™** rotary steerable systems (RSS) have a legacy of proven performance over the last 30 years, dating back to their initial application of drilling deep vertical mine shafts with high precision. The VectorZIEL and VectorEXAKT systems have been developed by a dedicated engineering team in Germany to provide industry-standard steering performance in vertical, directional, and horizontal applications. The systems are available for all common hole sizes, while providing several benefits, including:

- Short, nonrotating sleeve design with four steering ribs for accurate directional control even under severe stick-slip conditions
- Near-bit inclination, azimuth, and gamma measurements, providing both continuous and static surveys at only 3 ft (1 m) from the bit
- Integrated mud generator and mud pulser enable a short, integrated tool design with low operating costs
- Closed-loop trajectory control provides automated build, turn, and hold capabilities with limited interaction from surface required

The VectorZIEL and VectorEXAKT systems feature industry-leading Tolteq™ mud pulsers and can be combined with NOV's symmetric propagation resistivity LWD tool for additional real-time formation evaluation measurements. Available for purchase and supported by NOV's global R&M infrastructure, these tools allow independent directional drillers to provide top-tier directional services in the global marketplace.

In the rental market, the VectorZIEL and VectorEXAKT systems have been used to drill more than 230,000 ft (70 000 m) in more than 55 wells around the world. Additional wells have been drilled using the 40-plus customer-purchased tools. More than 50% of the rental runs with the VectorZIEL and VectorEXAKT systems have been for more than 200 circulating hours in duration, demonstrating the tools' robust design.

Wells drilled by tool type
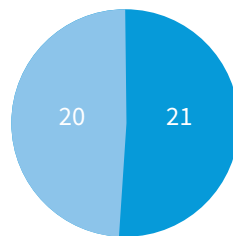Excludes wells drilled with customer-owned tools
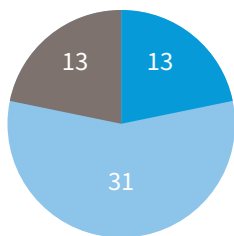
- VectorEXAKT
- VectorZIEL

Wells drilled by region
Excludes wells drilled with customer-owned tools

- Europe
- Asia
- USA

Customer-purchased tools by type

- VectorEXAKT
- VectorZIEL

Run-length breakdown by circulating hours
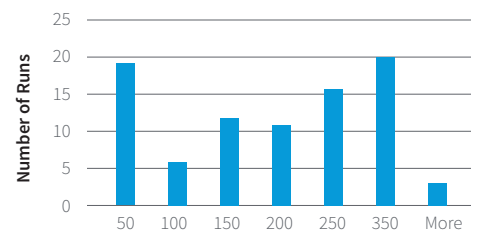
Run Length – Circulating Hours

Number of Runs

ReedHycalog | NOV Wellbore Technologies

reedhycalog@nov.com

nov.com/reedhycalog