

DP Reference Technology Upgrade for Noble Globetrotter I

Offshore drilling contractor Noble Corporation PLC has selected acoustically aided inertial navigation technology from Sonardyne Inc., Houston, for its ultra-deep water drillship *Noble Globetrotter I*. The Marksman DP-INS system is being used to provide a high-integrity, independent subsea position reference for the vessel's GE DP3 dynamic positioning (DP) system as it drills exploration wells in water depths up to 10,000 feet.

Built in 2011, the *Noble Globetrotter I* is significantly smaller than a conventional drillship but has the same operational capacity. The reduction in size has been achieved through design features such as a hoistable drilling floor, multi-purpose tower and inboard storage of risers which has allowed deck space and equipment handling to be fully optimised. The compact design of the vessel also means operating costs are lower thanks to the smaller wind area and lower hull drag.

Exceeding Differential GNSS

The installation of Marksman DP-INS is an example of Noble's continued commitment to the delivery of performance improvements and operational savings for customers through innovation. The system improves vessel positioning performance by exploiting the long term accuracy of Sonardyne's Wideband acoustic signal technology combined with high integrity, high update rate inertial measurements. The resulting navigation output provides accuracy and update rate that can exceed differential GNSS completely whilst remaining completely independent.

In addition to the system's deep water positioning performance and safety benefits, Marksman DP-INS has been proven to deliver valuable time and cost savings for rig operators. By tightly-coupling acoustic and inertial data, robust, accurate positions can be measured using just two and three seabed transponders depending on the application. This reduces installation and calibration time and it also extends transponder battery life as less frequent aiding updates from the seabed transponders are required.

Using Existing Interfaces

The equipment supplied to Noble Corporation included Sonardyne's vessel-fitted inertial sensor and bridge software. Although DP-INS is compatible with HPR systems from other manufacturers, for this installation, it was interfaced with *Noble Globetrotter I*'s existing Sonardyne acoustic reference system using the same bridge workstation.