

# Sonardyne 6G and SPRINT Achieve Time Savings in Gulf of Mexico



Subsea engineering, construction and installation company, Subsea 7, has successfully used acoustic and inertial navigation technologies from Sonardyne International during a project to install flowlines, risers and subsea structures at a major new deep water field development in the Gulf of Mexico, due to commence production in 2016.

To meet the positioning requirements of the project, Fred Goodloe III, project surveyor for Subsea 7 worked closely with Sonardyne's in-house Survey Support Group (SSG) to determine the optimum configuration of subsea, ROV and vessel-based equipment. For a low-risk, multi-functional and cost-effective solution, a combined acoustic and aided-inertial navigation approach was adopted comprised of Fusion 6G LBL and SPRINT inertial navigation technologies.

## High Precision Seabed Array

For the installation of the flowlines and structures, a high precision seabed array of Sonardyne Compatt 6 transponders was deployed. The SSG assisted Subsea 7 in designing the array, optimising array geometry and modelling acoustic ray bending paths to ensure the design produced a robust array that met the stringent positioning tolerances required and offered sufficient redundancy in acoustic observations.

The work identified that the quantity of transponders needed for the project could be reduced through the use of Sonardyne's inertial navigation sensor, SPRINT, installed on the survey team's ROV which was being used for touchdown monitoring. SPRINT makes optimal use of acoustic aiding data from acoustic USBL and LBL positioning systems and other sensors such as Doppler Velocity Log (DVL) and pressure sensors to improve position accuracy, precision reliability and integrity for subsea vehicles.

The use of SPRINT by Subsea 7 during the project allowed a tightly coupled range aided solution to be derived whilst the decrease in the quantity of Compatts, meant that there was a reduction in vessel time required for the installation, calibration and recovery of the array.