Surveyor Interceptor Sprints with Sonardyne SPRINT

MMT, Sweden, has successfully completed offshore integration trials of its new high-speed ROV with Sonardyne Internationalâ€™s SPRINT inertial navigation system. The 2,000m-rated Surveyor Interceptor has been developed by MMT to improve the speed and efficiency of seabed mapping and pipeline inspection surveys.

Surveyor Interceptor's revolutionary design features a hydrodynamic hull and powerful drivetrain enabling the vehicle to travel at up to six knots, around 50% faster than conventional work-class ROVs. The accuracy of SPRINT complements the vehicle's imaging and mapping sensors, resulting in improved survey data quality and reduced 'cost per kilometre' of surveys.

Travelling at high speed close to the seabed requires the vehicle's automatic manoeuvring and propulsion systems to be supplied with precise and uninterrupted position updates. To meet this requirement, MMT selected Sonardyne's acoustically aided inertial navigation system, SPRINT. Designed for subsea vehicles, SPRINT makes use of acoustic aiding data including USBL, LBL and Doppler Velocity Log (DVL) and other sensors such as pressure sensors to improve accuracy, precision, reliability and integrity in any water depth.

Inertial navigation is inherently self-contained and robust with good short term accuracy but can drift over time. SPRINT is therefore aided with complementary acoustic positioning data to provide long term accuracy and robustness and greater vehicle control. On the *Survey Interceptor*, a Sonardyne Inverted Ultra-Short BaseLine (iUSBL) transceiver has been interfaced directly to the SPRINT resulting in a optimised navigation solution that delivered position updates up to 100 times a second.

The system architecture inside SPRINT has been developed with flexibility and expandability in mind. This means the same vehicle-mounted hardware can be used as a premium survey vehicle grade gyrocompass or an acoustically aided INS depending on operational requirements. Users are able to upgrade and switch capability on demand using remotely activated in-field upgrades, meaning they only pay for the features they need.

Jonas Andersson, R&D manager at MMT said that by running Sonardyne's SPRINT inertial navigation system they witnessed a difference in the accuracy of all ROV positioning activities during the period, which in turn made a marked difference to the quality of the survey data received. MMT also will be looking to run further tests in the future with the new Sonardyne Syrinx DVL with a view to achieving even more precise position accuracy using a tightly integrated Syrinx DVL, SPRINT and USBL acoustics.

- Sonardyne products on Geo-Matching.com

Image: MMT's Surveyor Interceptor *ROV is equipped with Sonardyne's SPRINT INS system to improve the accuracy of high-speed pipeline inspections and surveys.*