

Fastest ROV Sprints with Sonardyne SPRINT

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MMT, specialists in high-resolution marine surveys, has successfully completed offshore integration trials of their new high-speed remotely operated vehicle with [Sonardyne International's](#) SPRINT inertial navigation system.

The 2,000 meter rated vehicle, named Surveyor Interceptor, has been developed by MMT to improve the speed and efficiency of seabed mapping and pipeline inspections surveys. Its 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 state-of-the-art imaging and mapping sensors, resulting in improved survey data quality and substantially reduced 'cost per kilometer' of surveys.

Travelling at high speed close to the seabed requires the vehicle's automatic maneuvering and propulsion systems

to be supplied with highly 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

optimal 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 very 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 highly optimized navigation solution that delivered position updates up to 100 times a second.

Besides its stand-out levels of precision and fast update rates, MMT also chose SPRINT as it is the most cost-effective and low risk technology on the market. 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.

Alan Macdonald, Sales Manager for Sonardyne commented, "We are obviously delighted with the outstanding results that MMT has achieved using SPRINT, both in testing and more recently, during its first commercial operation. At a time when the offshore industry is focused on ways to reduce costs without compromising on quality, the combination of MMT's ground-breaking ROV and our SPRINT INS represents a unique offering to the construction survey marketplace."

Jonas Andersson, R&D Manager at MMT said, "When testing the new MMT Survey Interceptor ROV, we were looking for an inertial navigation solution that would deliver real-time performance with high speed updates. By running Sonardyne's SPRINT inertial navigation system we witnessed a marked 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." He went on to say, "Now that Sonardyne has also released their new Syrinx DVL, we will be looking to run further tests in the future. This will be done with a view to achieving even more precise position accuracy using a tightly integrated Syrinx DVL, SPRINT and USBL acoustics."

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