Sonardyneâ€™s SPRINT-Nav Reaches New Heights of Capability

Marine technology specialist Sonardyne has released a new high altitude variant of its hybrid navigator SPRINT-Nav to allow uncrewed surface vessels (USVs) and underwater vehicles (UUVs) to extend their operational envelope.

SPRINT-Nav tightly integrates a Sonardyne SPRINT INS, Syrinx DVL and a highly accurate pressure sensor into a single high-performance solution providing navigation and optional acoustic Doppler current profile (ADCP) functionality.

Sonardyne's new variant takes this capability to an even higher level: increasing the altitude at which vehicle platforms can work when they don't have an external position reference, without compromising accuracy.

Highly Dynamic Environments

Operating at 400kHz, the high altitude variant achieves reliable bottom lock at up to 230m altitude above the seabed, providing USVs with a highly accurate and robust navigation source, which is critical for, as an example, station keeping applications in coastal surveys where GNSS could be denied or subject to interference.

Installation of the new SPRINT-Nav variant on autonomous underwater vehicles (AUVs) and remotely operated vehicles (ROVs) allows inspections and surveys to be performed at higher altitudes than previously possible.

In addition, the instrument's optional ADCP functionality has been extended to 120m, adding oceanographic data gathering and increased operational capability. This can be especially beneficial in highly dynamic environments and/or where remote vehicles are being deployed from a USV and robust current profile data is required.

The new SPRINT-Nav high altitude variant has already been delivered into the USV market, including as part of a package of Sonardyne technologies being installed on the first wave of Ocean Infinity's new Armada fleet of robotic vessels.

Higher Altitudes Above the Seabed

"Our new 400kHz SPRINT-Nav high altitude variant provides the optimal performance blend, with comparable accuracy but 30% greater altitude than our 600kHz standard SPRINT-Nav," says Malik Chibah, Sonardyne's engineering director.

"With higher altitude performance, this new variant of SPRINT-Nav allows USVs to operate in a wider range of maritime environments. UUVs can also operate at higher altitudes above the seabed, across a wide range of operational scenarios in the defence, energy and science sectors. This comes without the loss of accuracy expected of instruments offering the equivalent altitude. For example, you can increase your multibeam coverage rates or also reduce navigation drift during descent and ascent."

In addition to releasing the SPRINT-Nav high altitude variant, the 400kHz capability it contains is also now available as a standalone 400kHz variant of Sonardyne's Syrinx DVL, which also comes with optional ADCP functionality.