



*SPRINT is an acoustically aided inertial navigation system (AAINS) for subsea vehicles. The system extends the operating limits of Ultra-Short Baseline (USBL) and can dramatically improve the operational efficiency of Long Baseline (LBL) through the use of sparse arrays.*

*SPRINT makes optimal use of acoustic aiding data from acoustic positioning and other sensors, such as Doppler Velocity Log (DVL) and pressure sensors. This improves position accuracy, precision and integrity in any water depth while reducing operational time and vessel costs.*

### COURSE OBJECTIVES

The course covers all aspects of subsea aided INS positioning including USBL and Range (LBL) aided positioning and also calibration of DVL aiding sensors. It explores numerous operational scenarios, taking into account the aiding sensor data and its impact on the position solution.

### COURSE PRE-REQUISITES

It is assumed that course participants will already be competent users of USBL and 6G LBL acoustic positioning systems.

Refresher modules covering USBL and 6G LBL positioning systems can be run prior to the course upon request.

### WHO SHOULD ATTEND?

Course attendees are likely to include:

- Hydrographic Surveyors
- Survey Engineers
- Acoustic Surveyors

### COURSE TEACHING MEDIUM

The course delivery and written material are in English.

### COURSE DURATION

The Operator Training Course is 3 days in duration.

### NUMBER OF PARTICIPANTS

Courses are for up to 6 participants. This instructor-to-participant ratio ensures good one-to-one support, particularly during the hands-on sessions.

If required bespoke courses can be run for more than 6, with an additional instructor required.

### BOOKING AND CONFIRMATION

Details of course dates, training centre locations, availability and full terms and conditions can be found at: [www.sonardyne.com](http://www.sonardyne.com)

To reserve a place, please email: [training@sonardyne.com](mailto:training@sonardyne.com)

### TRAINING COURSE DELIVERABLES

- Booklet containing course material, plus USB stick containing supporting information.
- SPRINT S10 Operator Course attendance certificate.

### COURSE SYLLABUS

The following modules are covered in the theory sessions with the knowledge re-enforced by practical exercises:

- Lodestar Attitude Heading Reference System
- Lodestar Hardware Configuration and Testing
- Lodestar as an INS for subsea vehicle
- Lodestar Firmware Upgrade and Installation
- SPRINT Installation and configuration
- Typical ROV Installation
- SPRINT Software
- Operational Guidelines & Pre -Requisites
- Application of External Aiding Sensors
- Time Synchronisation
- DVL Aiding and Calibration QC
- USBL Aiding Theory of Operation
- USBL Aiding Operational Guidelines
- LBL & Sparse LBL Aiding Theory of Operation
- Review of Boxin Calibration and QC
- 6G LBL Aiding Operational Guidelines
- Zero Velocity Aiding (ZUPT)
- Review Source of Errors & QC
- Tracking Diagnostic Tools
- QC of Tracking Data
- Rejection Criteria and Optimisation
- Troubleshooting and Advanced Configuration
- Ongoing Maintenance
- Introduction to Janus Post Processing Tool