

# Système de positionnement acoustique

## FUSION LBL

### Overview

Fusion LBL is designed to position multiple subsea targets and structures with the highest possible levels of accuracy. The system can be configured to support simple tracking tasks through to complex, deepwater construction projects with multiple surface vessels and subsea vehicles working in close proximity to each other.

The long baseline method provides accurate positioning over a wide area by measuring ranges from a vessel to 3 or more transponders deployed at known locations on the seabed or on a structure. The technique offers a high degree of positioning repeatability and with range redundancy, an estimation of the position quality can also be made.

At the heart of Fusion LBL is Compatt 5. Faster set up and calibration, greater equipment utilisation and reduced risk. These are just some of the cost saving benefits of the latest range of Compatt 5 Wideband transponders from Sonardyne. This is Sonardyne's latest generation wideband transponder that can be used to create a seabed navigation network in which targets can be positioned. Crucially, these networks can offer position accuracies of better than 5cm independent of water depth

All positioning tasks are controlled via the Data Fusion Engine a common topside processor platform that can be used for both LBL and USBL applications. In practice this means a vessel equipped with a Fusion USBL transceiver is able to undertake LBL tasks by simply switching software applications and deploying additional seabed transponders. Traditionally this would have required the use of separate and dedicated systems.

This seamless ability to change roles from say, ROV tracking to construction support, offers vessel owners and operators unparalleled flexibility. It also represents a dramatic increase in the performance, utilisation and therefore, cost effectiveness that can be expected from acoustic positioning systems.

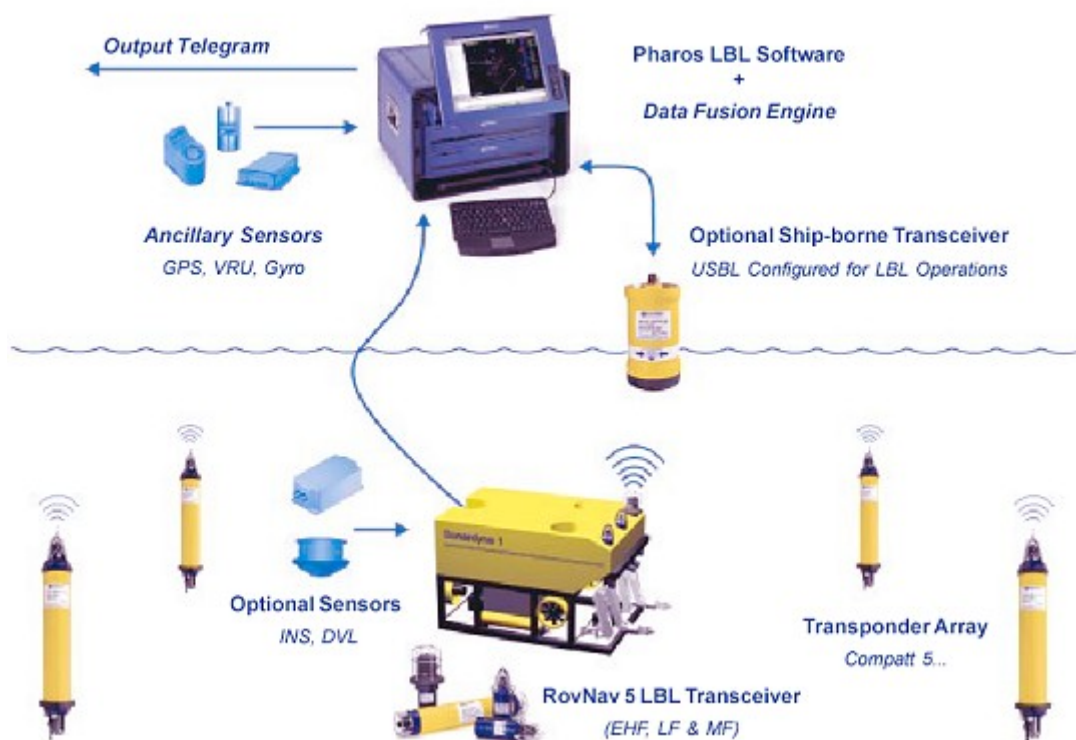
Fusion LBL supports all three frequency bands (EHF, MF, LF) within multiple array configurations. This allows targets to be tracked on any frequency simultaneously, thereby greatly reducing the problems associated with acoustic pollution when there are multiple operations occurring at the same time in the same area.

The system also supports the use of multiple transceivers or transponders attached to structures or vehicles to compute heading and attitude from acoustic observations. A wide variety of sensors can also be interfaced to a transponder to permit data recovery by acoustic telemetry. Fusion LBL has been developed to support all offshore scenarios from large-scale field development projects through to simple transponder tracking. It is the total field development solution; a seamless combination of Software, Firmware and Hardware.

## Features & Benefits

- o Incorporates Sonardyne's latest Wideband Technology **Sonardyne Wideband Technology provides the highest accuracy and therefore the lowest risk for all subsea acoustic positioning tasks, regardless of water depth.**
- o Allows multiple targets to be positioned simultaneously with centimetric precision independently of water depth
- o Operational efficiency is significantly increased through faster set-up and faster array calibration
- o Compatible with existing, worldwide inventories of LBL transponders
- o Multiple operating modes; tone burst and wideband
- o Hundreds of operating channels allowing truly independent acoustic operations
- o Easily switch between USBL and LBL operating modes

## A Typical LBL System



Illustrated above is a Fusion system configured for Long BaseLine operations. The equipment comprises a Data Fusion Engine running Pharos software, an ROV-mounted .RovNav 5. LBL transceiver and a Compatt 5 seabed transponder array.

If the vessel is already equipped with a Fusion USBL transceiver, this may be configured as an LBL transceiver to assist with operations in the Medium Frequency band.

In common with all of Sonardyne's latest generation software products, Fusion LBL utilises a standard Windows User Interface to simplify complex operations such as array calibration and tracking. This reduces operator training requirements and saves vessel time by decreasing the time to first fix.