

SonarBell[®] STLLS – SonarBell[®] Through-Life Location System

Through-Life Asset Location

A simple, low-cost solution to marking your pipe, cable or fibre; to support installation, monitoring, intervention and decommissioning.



➔ Whole Life Cost Saving

Offshore Pipeline, Cable and Fibre installations are hugely expensive undertakings whose costs are increasingly being calculated in terms of a “whole life*” basis including eventual decommissioning.

Attaching SonarBell[®] at the point of installation provides benefits for all four stages of the Pipeline/Cable/Fibre lifecycle including:

- Marking the route for dredging and indicating key locations like cross-overs for “touch-down” monitoring.
- Providing easy to follow markers for ROV and AUV to support pipe and cable “through life monitoring” and scour status indicators.
- When swift intervention is critical, for example when a pipe is leaking or a cable is broken and knowing where it is rather than where it should be matters.
- When the time comes to decommission the pipe or cable, SonarBell[®] assists in the location of the assembly in whole or in part.



Given the benefits of fitting the SonarBell[®] the cost per km is minimal when its ability to assist in the reduction of through-life cost at each stage of installation, monitoring, intervention and decommissioning are considered.

SonarBell[®] has the potential to reduce the maintenance costs of underwater assets further as the trend towards the use of Autonomous Underwater Vehicles increases delivery, a series of fixed location markers to bring and keep the AUV on track.

➔ Installation

Positioning a pipe, cable or fibre in a crowded or difficult area and ensuring a sufficiently accurate touch-down to minimise collateral damage and maximise asset lifetime can necessitate considerable extra programme cost.

Utilising SonarBell[®] as part of the positioning solution could, for marginal extra cost per km, improve the accuracy of such sonar driven operations significantly.

Where such an asset has to be joined or feed into another assembly, SonarBell[®] can play a significant part in reducing the time needed to locate components particularly when the alternative is visual location in areas of the seabed easily disturbed by tide or work.

As a low cost and potentially re-usable solution, SonarBell[®] reflectors can be used to assist in a host of other installation tasks where you simply want to see the relative position of something on sonar.

➔ Monitoring Post - Installation

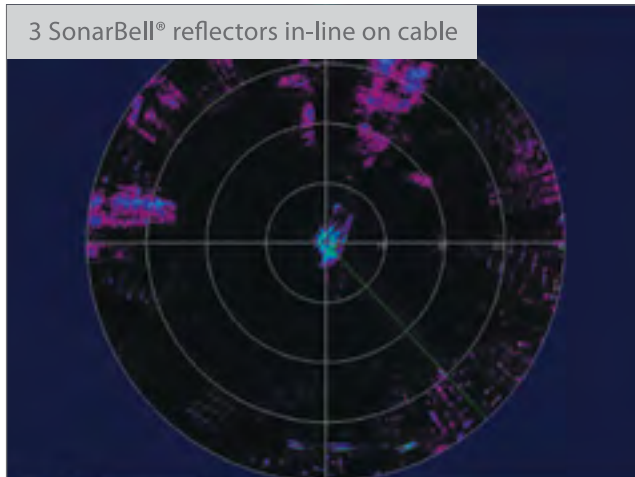
SonarBell[®] is a simple passive location marker that reflects the energy from the sonar, (like an omni-directional mirror) back towards it. It uses no batteries and consequently does not suffer from the lifetime limitations imposed by battery use.

Attaching a SonarBell[®] along a seabed asset will create a series of bright echoes to guide an ROV or AUV to the target area during its inspection procedure. It is possible to create different SonarBell[®] combinations to mark different points along the path.

➔ Improving Intervention Times

When a pipeline is damaged, a power cable cut or a telecoms fibre severed the financial and environmental impact can be huge.

Being able to locate the asset, whether it is where it should be or not, and bring the necessary intervention into play with minimal wasted time can result in huge differences to the potential penalty which ensues, particularly if repairs can be effected within contractual commitments.



SonarBell® fitted to the asset allows you to track the asset easily from a greater range than would otherwise be available and potentially assess any displacement. It would also assist in providing a clear sonar marker for any intervention tool being brought to bear in what might be deep water or poor visibility.

➔ Preventative Maintenance

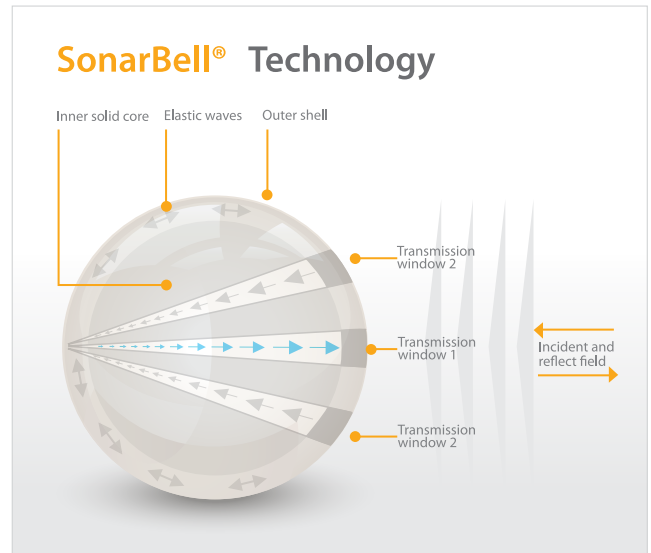
Where a cable, pipe or fibre is buried, SonarBell® can assist in monitoring the status of the protective covering to ensure it is maintained in accordance with best practice or contractual obligations.

The sonar echo returned by SonarBell® diminishes with depth of burial in the seabed. Buried in the seabed alongside or above a pipe or cable and covered over, the SonarBell® will disappear from the sonar screen. However if the SonarBell® becomes exposed it would become visible on a suitable scanning sonar, providing a warning that scour is taking place.

➔ Preparing for Decommissioning

Decommissioning is a costly process for an asset that is no longer delivering revenue.

If SonarBell® units are fitted then the time taken to recover the component parts from the ocean floor can potentially be reduced and costs kept to a minimum.



SonarBell® operates by focusing and reflecting sound energy, much as a lens or mirror can focus light and just like a lens or mirror, SonarBell® is a completely passive device.

By focusing and re-radiating the sound energy back in the direction from whence it came, a 200mm SonarBell® can deliver the same sonar target strength as a 2m diameter metal sphere whilst being relatively light weight and easy to handle.

However, unlike other technologies used for asset location SonarBell® does not suffer from either the “now you see it, now you don’t” of corner reflectors nor does it require the battery replacement cycle of transponders.

SonarBell® works with all types of sonar, to get the best performance from it the SonarBell® will be supplied matched to the resonant frequency of your sonar.

SonarBell® Technical Evaluation Programme



SALT recognises that clients will want to understand and have experience of the SonarBell® technology before considering deploying it. Consequently we have designed the STEPS programmes to help you get the most from SonarBell® either as a prospective user of the technology or as a Design Authority providing a solution on behalf of your client.

[Please contact us to discuss your requirements.](#)

* Lifetime subject to SALT verification



Registered & Corporate Office, Unit 2, Upper Courtyard, Renshaw Barns, Upper Woodford, Wiltshire, UK, SP4 6FA | Tel+44 (0)1722 782856
Research & Development Office, 19 Portland Marina, Osprey Quay, Hamm Beach Road, Portland, Dorset, UK, DT5 1DX | Tel+44 (0)1305 820321
Registered in England: 06436264 | Email info@cesalt.co.uk | www.cesalt.co.uk