

SEICHE

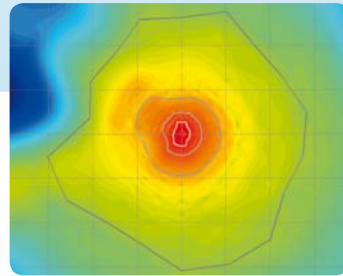
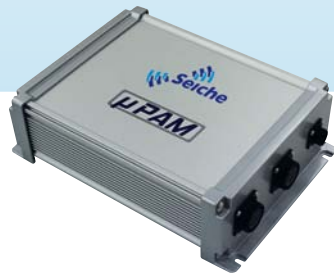
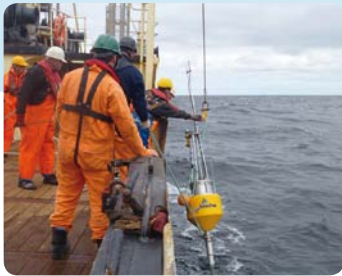
WATER
TECHNOLOGY
GROUP



TECHNOLOGY SOLUTIONS &
ENVIRONMENTAL SERVICES



Specialising in underwater acoustics and noise measurement, Seiche Water Technology Group provides marine technology and environmental service solutions to the oil and gas, renewables, defence, construction and marine science sectors. We are also the market leader in the provision of Passive Acoustic Monitoring (PAM) equipment to clients worldwide.



MEASUREMENT

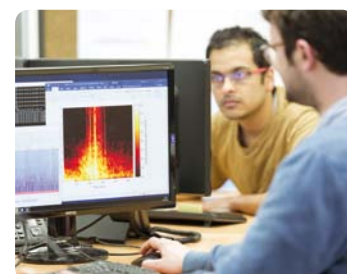
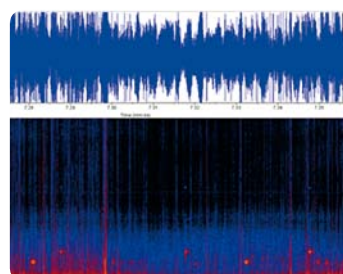
Seiche holds expertise in the equipment, operation and analysis involved in underwater sound measurement. Regulatory requirements have increased and the assessment of ambient and anthropogenic sound levels must now meet exacting standards. Our collaborative team can complete measurement tasks through the entire process to the highest quality.

MODELLING

Seiche combines an in-depth knowledge of computational algorithms with practical knowledge of the marine environment. The team provides a comprehensive range of services in underwater acoustic modelling including predictive sound source modelling, sound source verification (SSV), propagation modelling and mitigation zone determination.

MITIGATION

Regulatory requirements for effective noise mitigation have increased – particularly for the protection of whales and dolphins. It has become standard practice across several industry sectors for Passive Acoustic Monitoring (PAM) to detect vocalising marine mammals – in real-time – to ensure none are within close vicinity of an active sound source.



FULL ENVIRONMENTAL SERVICE PROVISION

Building on our global reputation for providing market-leading technology, Seiche can now provide quality and effective end-to-end solutions for all stages of project lifecycles.

Service provision includes:

- MMO, MFO and PSO
- PAM operators and equipment
- FLOs
- Environmental scientists/ reps
- Marine mammal risk and impact assessments
- Noise modelling and monitoring
- Baseline surveys

TRAINING SERVICES

Seiche provides highly regarded training for individuals and companies in the UK and around the globe. The courses cover all aspects of Marine Mammal Monitoring (visual and acoustic) as well as the practicalities of mitigation in the field. Specialised underwater acoustics courses are also available and all can be delivered in-house or tailored for bespoke needs.

Courses include:

- JNCC Accredited MMO
- BOEM/BSEE Accredited PSO
- PAM Operator – Level 1 and Level 2
- Underwater Acoustics and Sonar Systems
- Underwater Acoustics and the Marine Environment

CUTTING EDGE TECHNOLOGY

TOWED PAM SYSTEM

Our most extensively used PAM system is robust, reliable and available at short notice with either 4 or 6 hydrophone arrays. The system is available in a number of configurations and is supported by PAMGuard software.

VERTICAL PAM

Our vertically deployed system provides a simple and flexible approach suited to static operations such as oil rig VSP and civil engineering works. It is designed to be lightweight and easy to transport, including by helicopter.

CAMERA MONITORING SYSTEM

The Seiche Dual Camera System combines High Definition (HD) and Thermal Imaging technology to enable continuous real-time video coverage for maritime applications.

RADES

Real-time Automated Distance Estimation at Sea (RADES) is Seiche proprietary software. It provides accurate ranging information and overlays a mitigation zone live on screen. RADES is also capable of automated detection of marine mammals. This enables robust mitigation decision making that is both objective and recordable.

MODULAR BUOY

Seiche's Modular Buoy System uses PAM to monitor vocalising marine mammals and underwater noise. It consists of a remote moored buoy with a multi-element detachable hydrophone array suitable for mitigation and anthropological noise capture.

UNMANNED SURFACE VEHICLES (USVs)

The AutoNaut USV is a near silent, clean energy solution for persistent and long endurance data collection. Applications include marine life monitoring during seismic surveys; communications gateway as an at-sea information hub communicating with sub-sea assets such as seafloor nodes via underwater and satellite communications for data harvesting and AUV coordination; environmental monitoring and wave current profiling.

REMOTELY MONITORED PAM

Seiche has pioneered the use of satellite technology to transmit PAM signals from a vessel anywhere in the world to a shore base. Highly trained operators listen to the live audio feed from Seiche HQ. 24/7 flexibility allows mitigation support to on-board operators.

MULTI VESSEL LINK (MVL)

An MVL system enables a PAM HUB station on one vessel to monitor PAM systems installed across the fleet within several kilometres' range. The ability to simultaneously monitor multiple PAM systems gives flexibility to personnel requirements.

DIGITAL HYDROPHONE

This new generation of digital hydrophone improves signal to noise ratio and enables advanced array control through real-time configuration of gain and filters.

ARRAY FOR AUTONOMOUS VEHICLES

A high-performance, miniaturised underwater acoustic measurement device for static and low-speed towed monitoring applications. This array can be tailored to individual requirements and deployed as a cost-effective method of offshore monitoring.

MICROPAM

A full PAM monitoring and mitigation system in a small, highly portable package. It is designed for use in tough marine environments and may be used as an autonomous sound recorder, or linked to a laptop computer for real-time monitoring.

SATELLITE REMOTE SENSING SERVICES

Seiche has developed the software and skills to monitor ocean activities from space. Taking data from a range of satellites and processing through our proprietary software, we can offer a range of satellite monitoring activities to meet client requirements.