

- LAND
- ↓ DOWNHOLE
- SEABED
- ≡ MARINE



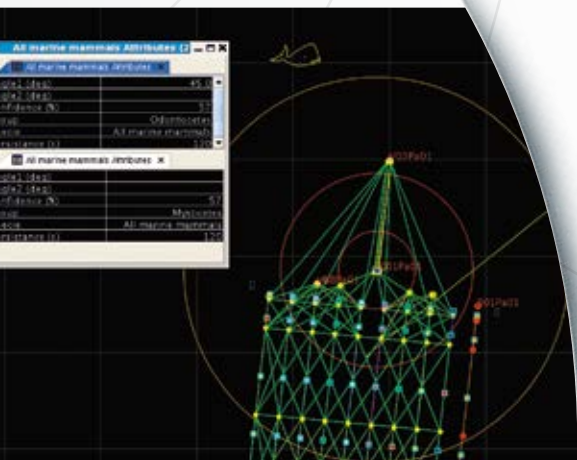
# QuietSea™

Marine mammal monitoring system



Ahead of the Curve<sup>SM</sup>

# Features & Benefits



## // INTEGRATED ARCHITECTURE

Sensors within Sentinel® streamers  
Interfacing Seal 428 & SeaPro Nav

## // OPTIMIZED PRODUCTIVITY

No external devices to entangle streamer  
False alarm rate reduction

## // PRECISE MONITORING

Automated detection & localization algorithms  
Objective decision-making



QuietSea™ is the new passive acoustic monitoring (PAM) system from Sercel designed to detect the presence of marine mammals during seismic operations.

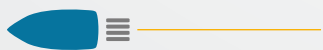
Unlike other separate antenna PAM systems, QuietSea is seamlessly integrated within the Sercel Sentinel seismic streamer (Sentinel, Sentinel RD and Sentinel MS).

### COMPATIBILITY

3D vessel



2D vessel

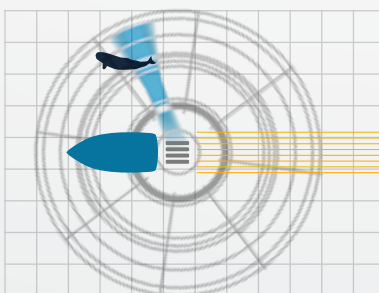


Source vessel



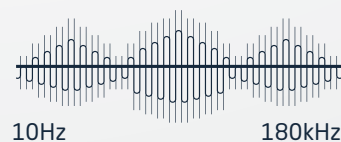
• - - - - Dedicated antenna for source vessel  
— Seismic streamer

### AUTOMATED LOCALIZATION



### WIDE FREQUENCY RANGE

Whistles, moans and clicks





# Onboard equipments

## Localization and Low frequency detection

- QuietSea software
- Interface to Seal 428 and SeaPro Nav
- Acquisition & data processing (Streamer and Auxiliary modules)
- Data logging & localization display



# Streamer module

## High frequency detection

- Interfaced with positioning transducer
- A/D conversion
- Vocalization detection (200Hz to 96kHz) and timestamping
- Sensor test
- 50 or 70mm diameter
- Up to 4 modules per streamer



# Auxiliary module

## High frequency detection

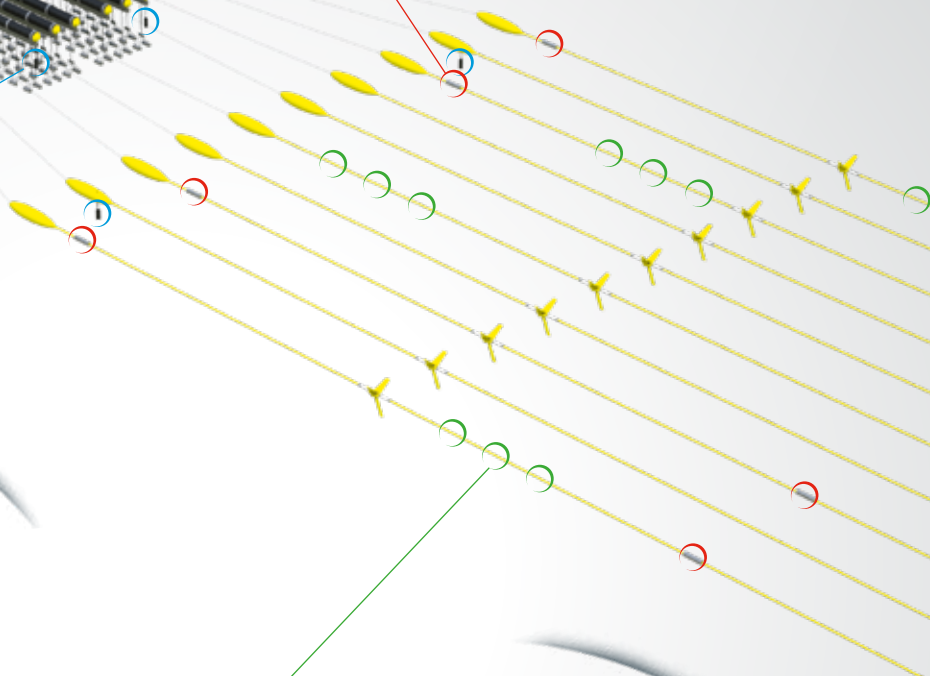
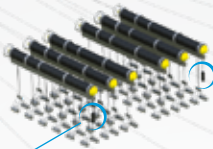
- To be mounted on the vessel hull, head buoy or impulsive source array
- A/D conversion
- Vocalization detection (200Hz to 180kHz) and timestamping
- Sensor test
- Up to 8 modules per system



# Sentinel

## Low frequency detection

- Both seismic data recording and mammal monitoring
- Vocalization detection (down to 10Hz)
- Up to 512 processed channels per spread
- Sensor test





# QuietSea™

## **Sercel - France**

16 rue de Bel Air  
B.P. 30439 - 44474 CARQUEFOU Cedex  
Téléphone: (33) 2 40 30 11 81  
Fax: (33) 2 40 30 19 48  
E-mail: sales.nantes@sercel.com  
SAS au capital de 2 000 000 €  
Siège Social: 16 rue de Bel Air - 44470 CARQUEFOU  
378.040.497 R.C.S. Nantes Code APE 2651B

## **Sercel Inc. - U.S.A.**

17200 Park Row  
Houston, Texas 77084  
Telephone: (1) 281 492 6688  
Fax: (1) 281 579 7505  
E-mail: sales.houston@sercel.com

[www.sercel.com](http://www.sercel.com)

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