WAVEFRONT

Making the underwater world visible

Vigilant

Forward Looking Sonar

WAVEFRONT

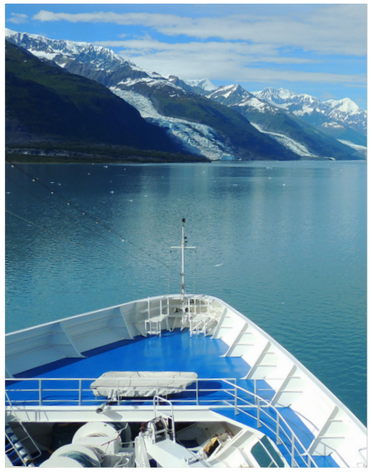
Wavefront apply engineering excellence to the problems of underwater detection and navigation. Our operationally proven market-leading sonar systems are reliable, easy to use and designed to provide real-world solutions.

Our sonar technology allows us to make the underwater world visible.

Vigilant

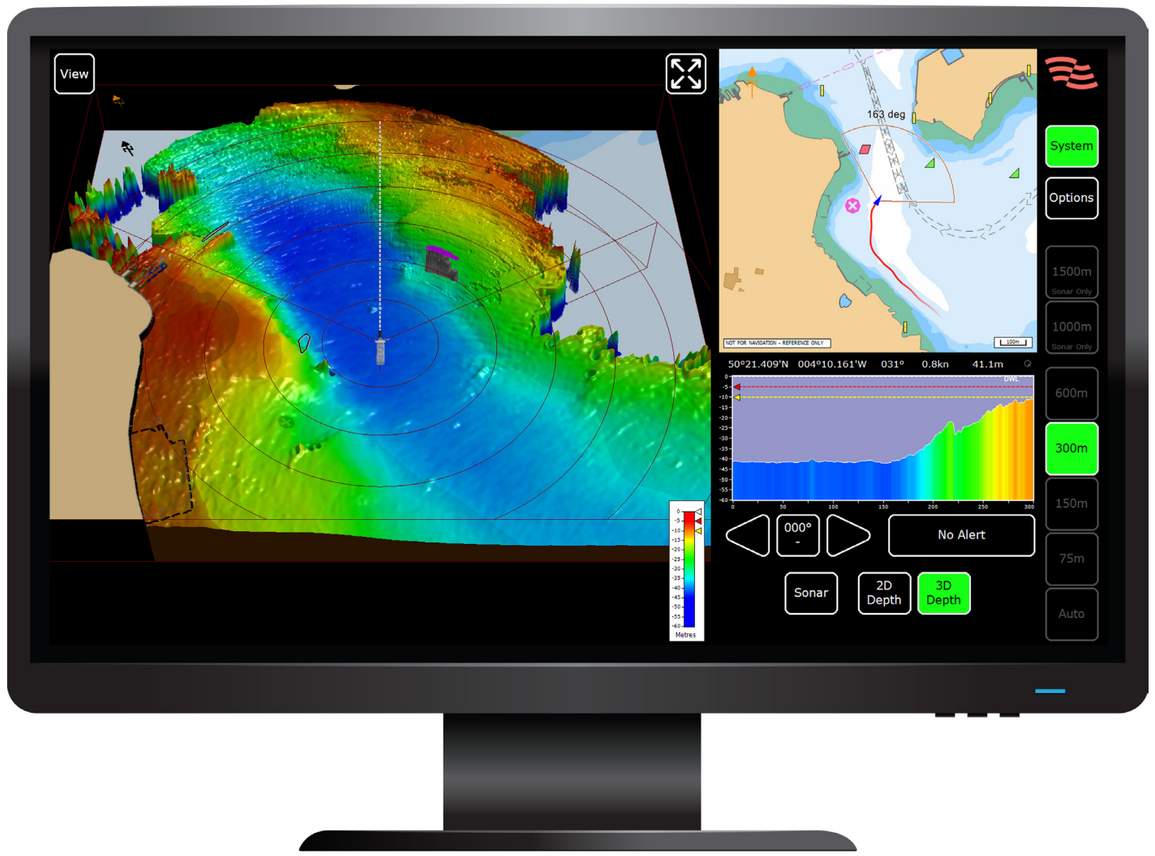
Transform your vessel's underwater situational awareness with Vigilant.

Vigilant Forward Looking Sonar's (FLS) automated alarms highlight hidden objects, including ice, containers and marine mammals, in the water column up to 1500m ahead. With unrivalled resolution and detail, it delivers real-time, easily interpreted 3D terrain maps of the seabed ahead.



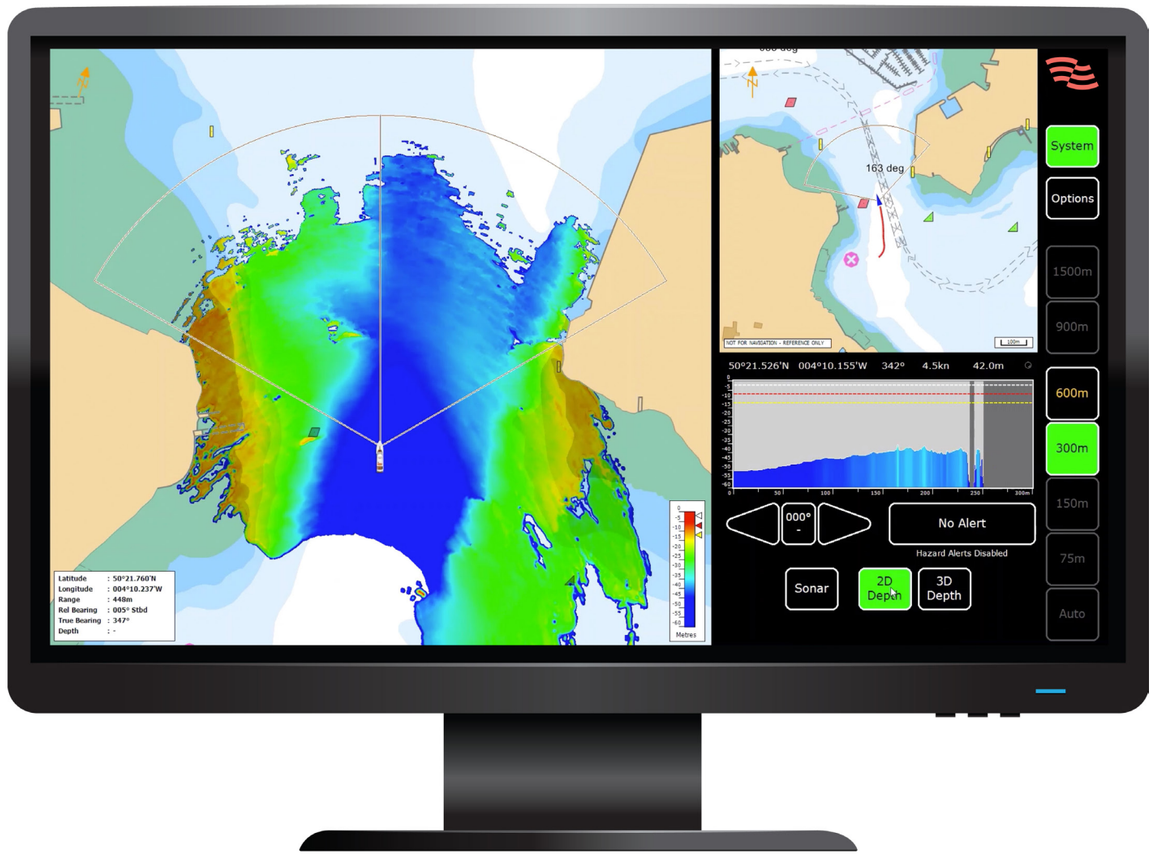
Vigilant FLS
3D Mode

In 3D Mode, Vigilant shows the water depth in a fully rotatable, interactive 3D display. Good for a complete perspective on situational awareness.



Vigilant FLS
2D Mode

In 2D Mode, Vigilant shows water depth colour coded on a bow up display. Good for confined waters where you want a detailed image around you.



Overview
Navigate confidently through poorly charted or dynamic water environments using Vigilant forward looking sonar (FLS) technology. The most capable FLS on the market, with object detection in the water column out to 1500m and 2D/3D profiling out to 600m, down to 100m depth.

With automated warnings and exceptional high-resolution real-time 3D mapping, Vigilant allows your crew to navigate confidently. It gives them time to react to underwater hazards, reducing the risk of collisions and groundings.

With a compact design and ability to integrate with existing bridge systems, it's suitable for installation on new builds or retrofitted to vessels in the commercial, military, cruise, exploration and private sectors.

Wavefront has used decades of targeted engineering experience to develop an unrivaled world-leading forward looking sonar solution.

Unmatched performance in Navigation and Obstacle Avoidance
Vigilant FLS is a long-range sonar solution for all types of maritime vessels. It offers high-resolution 3D mapping of the water column up to 600m ahead and crystal-clear bathymetric imaging of the entire seabed around your vessel. With automated alarms and alerts, configurable based on Under Keel Clearance (UKC) requirements, delivered, in real-time, Vigilant can be used in poorly charted waters and in busy coastal waters, harbours and ports.

Vigilant's two array design allows for flexible mounting solutions to suit the design of your vessel and a separate processor unit to provide easy upgrade options.

Our world-leading sonar solution allows you to navigate safely through poorly charted and dynamic waters by giving crews time to react to upcoming hazards.

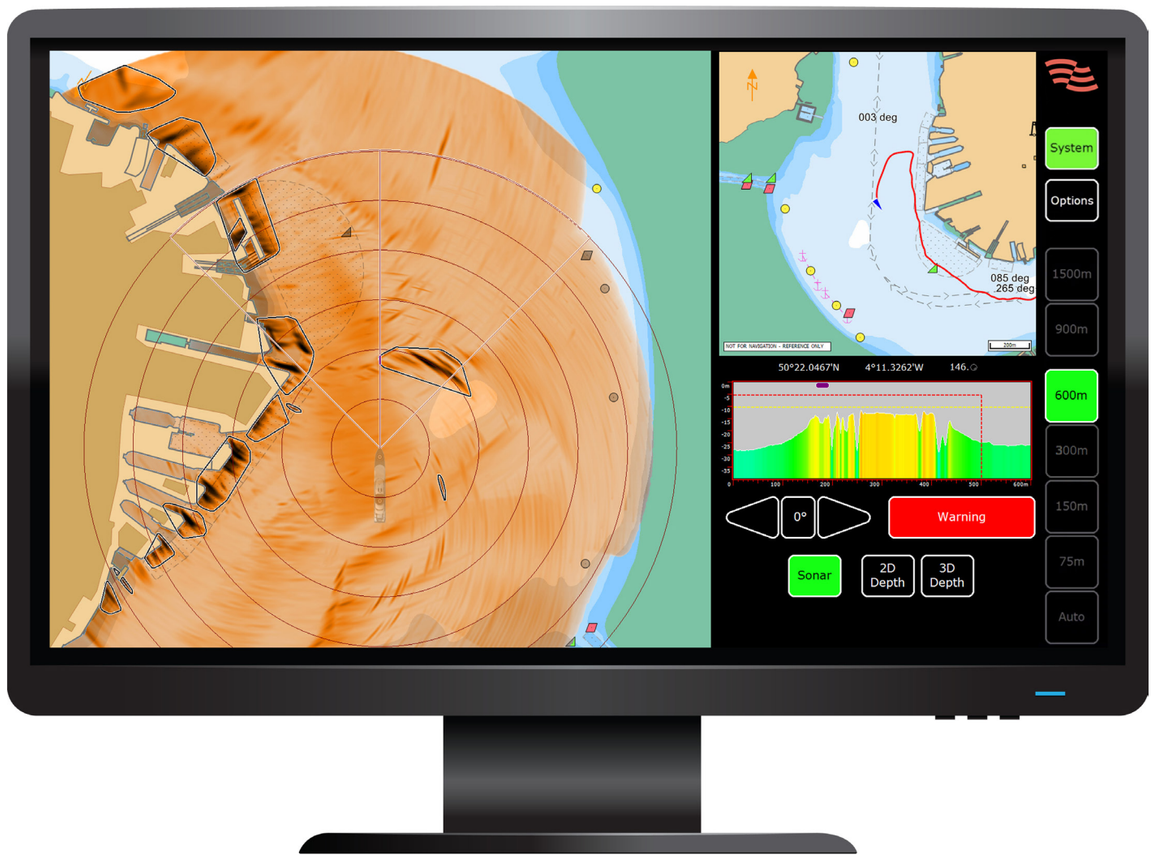
Range
Long range 1500m obstacle detection and 3D bathymetry mapping up to 600m.

Intuitive
It informs the user of potential danger through automatic alarms and easy to read 3D real-time mapping, colour coded to indicate depth and obstacles.

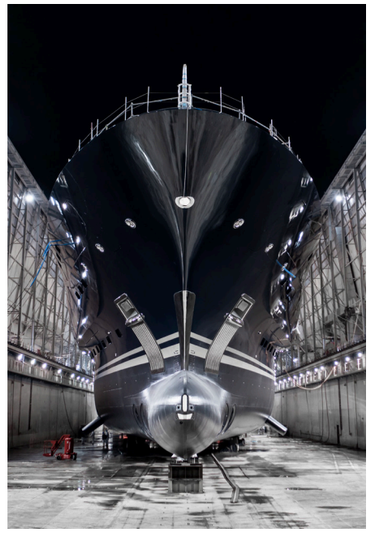
- **Object detection out to 1500m, 2D/3D profiling out to 600m, down to 100m depth**
- **Easily interpreted 3D real-time seabed maps**
- **Mounting options for new-build or retrofit, including autonomous, un-manned and manned vehicles**
- **Performance at high speed to detect underwater hazards**
- **Compatible with your existing bridge systems**
- **Automatic hazard warning alarms**
- **In water column detection for obstacles such as ice, containers and mega-fauna**
- **Separate processor and arrays to allow for custom integrations**
- **Electronically 'steerable' beam over 120° FOV**
- **Clear seabed profile shown in dedicated display**
- **User defined warnings and alerts for UKC and range**

Vigilant FLS
Sonar Mode

In Sonar mode, Vigilant shows long range sonar return intensities. Good for open water navigation to detect any objects in the water.



Vigilant FLS
Family



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1. Typical Vigilant Installation on the bow of a 145m vessel.
2. Ideal for XLUUVs. This is Vigilant on MSubs S201 part of the DASA XLUUV program.

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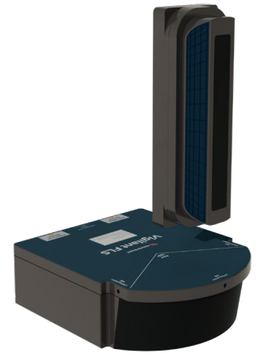
3. Vigilant 1500, suitable for larger vessels with a 600m detection range and Real-Time 3D Seabed and Water Column mapping.



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4. Vigilant 1000, with a smaller footprint, still providing 600m detection range and Real-Time 3D Seabed and Water Column mapping.

Why Invest

- Long range hazard detection, high resolution seabed mapping.
- Real-time determination of seabed terrain and underwater hazards.
- Simple, clear display for the crew.
- Historical data provides situational awareness.
- ENC, NOAA chart & ECDIS integration.
- Overlay charts give clear context.
- Suitable for manned & unmanned surface & subsurface vessels.

System Setup

- Easy installation and in-house design engineers available.
- Field Engineers available to commission on site.
- Simple Ethernet output for integration.
- On board and onsite training.

Support

- 24/7 support helpline.
- Access to our engineering team to remedy any issues remotely.
- Extended warranty and maintenance support packages to ensure customers receive the best performance from Vigilant throughout the product's lifetime.

Feature	Vigilant 1500 FLS	Vigilant 1000 FLS
Range/Field of View	75 – 600 m x 120° 2D/3D Depth Mode 75 – 1500 m x 120° Sonar Mode	75 – 600 m x 120° 2D/3D Depth Mode 75 – 1000 m x 120° Sonar Mode
Operational Speed	Up to 25 knots	Up to 25 knots
Operating Frequency	70 kHz	70 kHz
Bottom Mapping Ratio	Up to 20 x water depth	Up to 12 x water depth
Maximum Depth Detection	100 m	100 m
Roll/Pitch Stabilisation	+/- 20°	+/- 20°
Angular Accuracy	~0.3°	~0.3°
Operating Power	<150 Watts	<150 Watts
Operating Temperature Range	-2 to 40°C	-2 to 40°C
Receiver HxWxL - Weight in Air/Water	110 x 310 x 400.5 mm - 15.0/4.0 kg	110 x 310 x 400.5 mm - 15.0/4.0 kg
Transmitter HxWxL - Weight in Air/Water	577.5 x 118 x 115.6 mm - 6.0/1.4 kg	346.5 x 118 x 115.6 mm - 3.3/0.8 kg

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A COVELYA GROUP COMPANY

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Contact Us

Coldharbour Business Park,
Sherborne, Dorset
DT9 4JW. UK

www.wavefront.systems
Sales: enquiries@wavefront.systems
Support: support@wavefront.systems

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