



# Product Guide

Outstanding Performance in Underwater Technology



# Serving the global subsea industry

Tritech International Limited [Tritech], A Moog Inc. Company, is a high-technology business dedicated to providing the most reliable imaging and ancillary equipment for use in underwater applications.

## Industries we serve

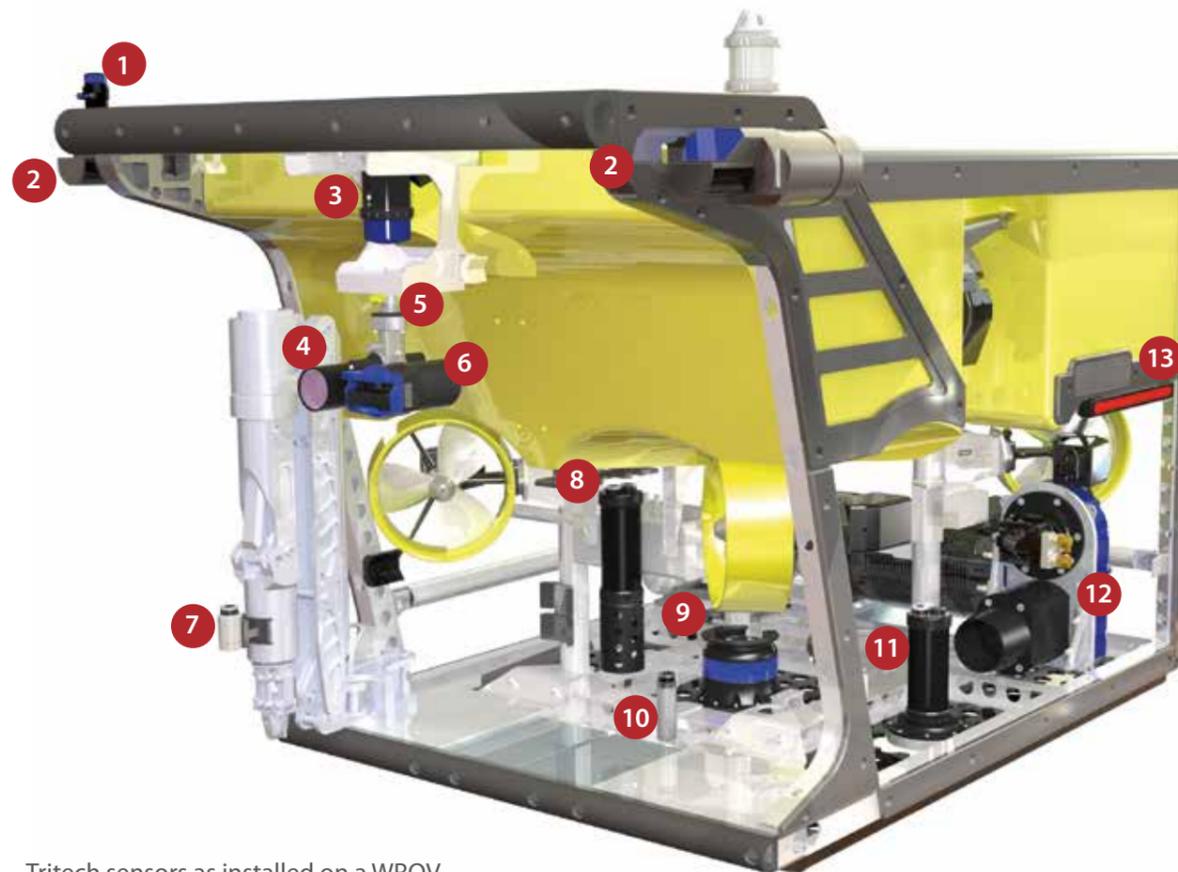
- [Oil and Gas](#)
- [Renewables](#)
- [Defence](#)
- [Aquaculture](#)
- [Search and Recovery](#)
- [Marine Research and Science](#)

With over 25 years' service to a diverse range of industries, Tritech's products offer reliable and robust solutions in the subsea environment, particularly in challenging and low-visibility conditions.

Tritech's suite of sensors and tools for AUVs and ROVs are industry leading; demonstrable by products such as the Super SeaKing mechanically scanning sonar, the obstacle avoidance sonar of choice for ROV fleets globally. The Gemini range of multibeam sonars, with a reputation for performance and reliability has made it a first choice for multibeam sonar imaging.

Data collection is performed through Tritech's specialised software which is the complete data acquisition package, capable of monitoring multiple sensors and is supplied and fully supported at no additional cost.

## Product Range Overview



Tritech sensors as installed on a WROV

## Sales, Rental and Customer Support Locations

- Westhill, Scotland
- Katy, Texas
- Global Distributor Network

Product	Group / type
1 Micron Modem	Navigation
2 Gemini 620pd	Multibeam profiling
3 Super SeaKing DST	Mechanical imaging
4 Typhoon Camera	Video
5 Pan and Tilt	Mechanical
6 Gemini 720is	Multibeam imaging
7 Super SeaSpy	Video
8 SeaKing 704 Bathy	Survey sensor
9 AquaTrak™ CVL	Navigation
10 PA500	Survey Sensor
11 SeaKing PSBP	Mechanical Profiling
12 Merlin Pump	Mechanical
13 Side Scan Sonar	Side Scan Imaging

# Imaging Sonars



Super SeaKing DST



Super SeaPrince



Micron Sonar



SeaKing Hammerhead

## Mechanical Imaging

Mechanical imaging sonars operate using a single beam or pulse emitted from a transducer. The transducer transmits a pulse, waits for a period of time to receive the data back, then rotates to the next position where the process is repeated. An image is then plotted on the computer screen representing the area surrounding the sonar.

**Super SeaKing DST** - The industry-standard sonar installed on WROV fleets globally and is the ideal sonar for navigation and obstacle avoidance.

**Super SeaPrince** - Specifically designed for deployment in survey, observation and light WROVs and ideal for navigation and obstacle avoidance.

**Micron Sonar** - Our smallest digital CHIRP sonar available and ideal for installation on small ROVs and AUVs and ideal for navigation and obstacle avoidance.

**Seaking Hammerhead** - A dual frequency, high resolution, 360° mechanical scanning sonar suitable for detailed survey of the seabed.

## Side Scan Imaging

Side scan sonars are towed through the water and have the capacity to survey large areas. Applications include Search and Recovery, port and harbour surveying and wreck hunting.

Tritech has a range of deep and shallow-water side scan sonars with a choice of frequencies starting at 150kHz. Each towfish offers digital CHIRP signal processing techniques in portable high-resolution and high-frequency plug and play solutions.



SK 150 Side Scan Sonar

For our full range of products and services please visit

[tritech.co.uk](http://tritech.co.uk)



Gemini NBI



Gemini 720is



Gemini 720ik



Gemini 720im

## Multibeam Imaging

A multibeam sonar does not have any moving parts. It works on the principle of beam-forming multiple acoustic beams across the field-of-view as opposed to the single beam from a scanning sonar, resulting in a real-time sonar image. Applications include obstacle avoidance, target detection and close-range inspection.

**Gemini NBI** - Manufactured from titanium and designed to operate in the harshest of environments such as subsea mining and excavation.

**Gemini 720is** - Ideal for poor visibility environments. Featuring a 720kHz operating frequency and an integrated sound velocity sensor to assist in providing the sharpest image possible, with accurate ranging.

**Gemini 720ik** - A real-time, high-frequency imaging solution developed for shallow water operations.

**Gemini 720im** - The world's smallest multibeam imaging sonar. Developed for use on micro ROVs and ideal for difficult to access areas.

**RAMS®** - An ATEX-compliant 360° mooring line and riser integrity monitoring system for Floating Production Storage and Offloading Units (FPSOs) and Floating Liquid Natural Gas vessels (FLNGs). Deployed through the FPSO turret, the RAMS® sonar provides simultaneous real-time feedback on the status of all the targets as viewed throughout the full 360° window.

## Profiling Sonars



Super SeaKing DFP



SeaKing Sub-Bottom Profiler



Gemini 620pd



Gemini Hub

## Mechanical Profiling

**Super SeaKing DFP** - Using composite transducer technology, this mechanical scanning profiler is used to plot an accurate profile of the seabed. The dual frequency transducer results in substantially increased ranges and image resolution and operates from a single Tritech Surface Control Unit.

**Seaking Sub-Bottom Profiler** - Provides a clear picture of what lies below the seabed. This compact, low power unit is ideal for installation on small ROVs and AUVs.

## Multibeam Profiling

**Gemini 620pd** - A technically advanced multibeam sonar head that produces high-performance bathymetry data.

**Gemini Hub** - Provides accurately timestamped data, in a single or multiple Gemini head configuration, which is then output in a number of industry-standard survey formats.

## Bathymetry and Attitude Sensors



Super SeaKing Bathymetric Sensor



PA500 Altimeter



Micron Echosounder

**Tritech's SeaKing 700 Series**, integrated bathymetric sensors, are available in two forms:

**701 Series** - Comprising a depth sensor complete with altimeter.

**704 Series** - Includes the addition of temperature and conductivity sensors to provide a calculated speed of sound for high-accuracy bathymetry measurements.

**PA500 Altimeter** - A 500kHz altimeter which can be used stand-alone or with the 700 Series bathy.

**PA200 Altimeter** - A 200kHz altimeter for increased range.

**LRPA200 Altimeter** - A long-range and high-accuracy, digital precision altimeter.

**Micron Echosounder** - A stand-alone altimeter for accurate height off the seabed and other subsea distance measurements.

## Navigation and Data Transfer Systems



MicronNav UBSL Tracking System



Micron Data Modem



AquaTrak™ CVL

**MicronNav UBSL Tracking System** - Specifically designed for small ROVs and AUVs to complement the Tritech Micron range of products. The USBL transducer (with integral magnetic compass and pitch/roll sensors) communicates with the subsea transponder to provide relative positioning information which is plotted in real-time. The user can monitor the position information on one software package alongside the other Tritech sensor data, such as that from an imaging sonar.

**Micron Data Modem** - Enables a robust spread spectrum data transmission from an extremely compact unit. Specifically designed for through water data telemetry transfer to/from ROVs and AUVs; it is also the basis of the transponder for the Tritech MicronNav UBSL tracking system.

**AquaTrak™ CVL** - Provides long-range navigation and high-resolution accuracy from a compact, low power sensor and offers significant advantages over a conventional piston DVL (Doppler Velocity Log) and phased array DVLs. It is suitable for all underwater vehicle applications; providing class-leading precision and accuracy at low velocities.

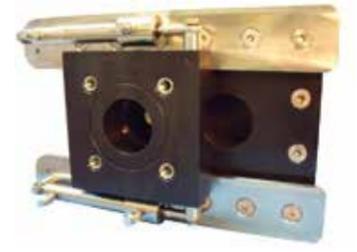
## Mechanical and Hydraulic



Super Zip Jet



Merlin



Anchor Zip 10

**Super Zip Jet** - A reliable, high-performance dredge pump for use on WROVs for excavation and jetting applications. Incorporating several design features which improve its reliability and substantially reduce its maintenance costs.

**Merlin** - Where increased hydraulic capacity is available this unit offers superior performance for excavation and jetting, and can be configured to allow simultaneous jetting and excavation.

**Anchor Zip 10** - A heavy duty suction anchor pump designed for WROVs, able to produce 25 HP of hydraulic power, providing a very quick and cost effective way of installing and removing suction anchors.

## Control Units



Seanet SCU



SeaHub

**Seanet SCU** - A robust 19" rack mount unit with floated shock mount sub-assemblies for maximum reliability. Featuring a high-speed 156kBits/sec communication system to enable operation of a full suite of Tritech sensors over a single twisted pair.

**SeaHub** - A highly versatile unit that allows a customer to interface Tritech or third party survey equipment via a USB connection on their own PC or laptop. Featuring a rugged stainless steel housing, it is available in a desktop or 19" rack mount configuration.

## Video Imaging



Super SeaSpy

**Super SeaSpy Camera** - A high-resolution, full colour camera with integral low-voltage lighting via a ring of white LEDs for uniform illumination.

**Typhoon Camera** - A robust camera ideal for WROV survey, inspection, security and surveillance work. Typically installed as the main high-resolution zoom camera.

**Tornado Camera** - A high-performance monochrome underwater video camera suited for low-light situations.



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