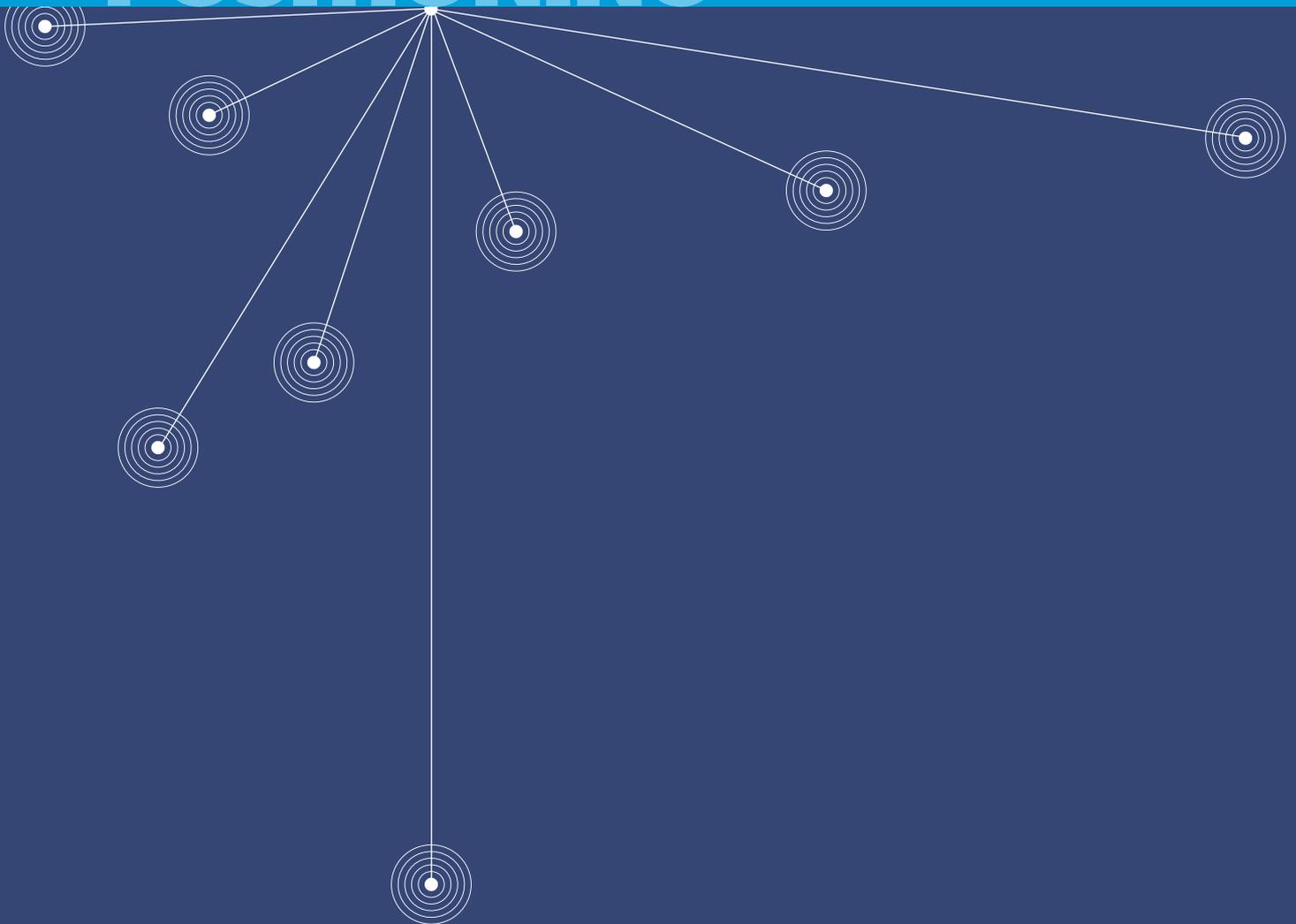


# **RANGER 2 USBL** **UNDERWATER** **TRACKING AND** **POSITIONING**



**POSITIONING**  
**NAVIGATION**  
**COMMUNICATION**  
**MONITORING**  
**IMAGING**

## RANGER 2 USBL

# TRACK EVERYTHING, IN ANY DEPTH, FROM ANY VESSEL.

**TRACK A TOWFISH, POSITION AN ROV, DP YOUR VESSEL, SEARCH THE SEABED OR NAVIGATE AN AUV. WHEN YOU NEED TO INVEST IN ULTRA-SHORT BASELINE (USBL) ACOUSTIC TECHNOLOGY TO SUPPORT YOUR UNDERWATER OPERATIONS, RANGER 2 HAS THE PERFORMANCE YOU NEED, AT THE INVESTMENT LEVEL YOU CAN AFFORD TO GET THE PROJECT COMPLETED FASTER AND MORE EFFICIENTLY THAN ANY OTHER SYSTEM ON THE MARKET.**

### ENGINEERED LIKE NO OTHER

All USBL systems calculate position by measuring the range and bearing from a vessel-mounted transceiver to an acoustic transponder fitted to a moving target or placed on the seabed. But not all USBL systems do it with the accuracy and precision offered by Ranger 2.

We've taken everything that made our original Ranger system so effective and advanced it to the next level. That next level is our award-winning 6G (sixth generation) acoustic hardware platform and Sonardyne Wideband® 2 digital signal architecture which work seamlessly together to deliver the best possible USBL positioning performance and operator experience.

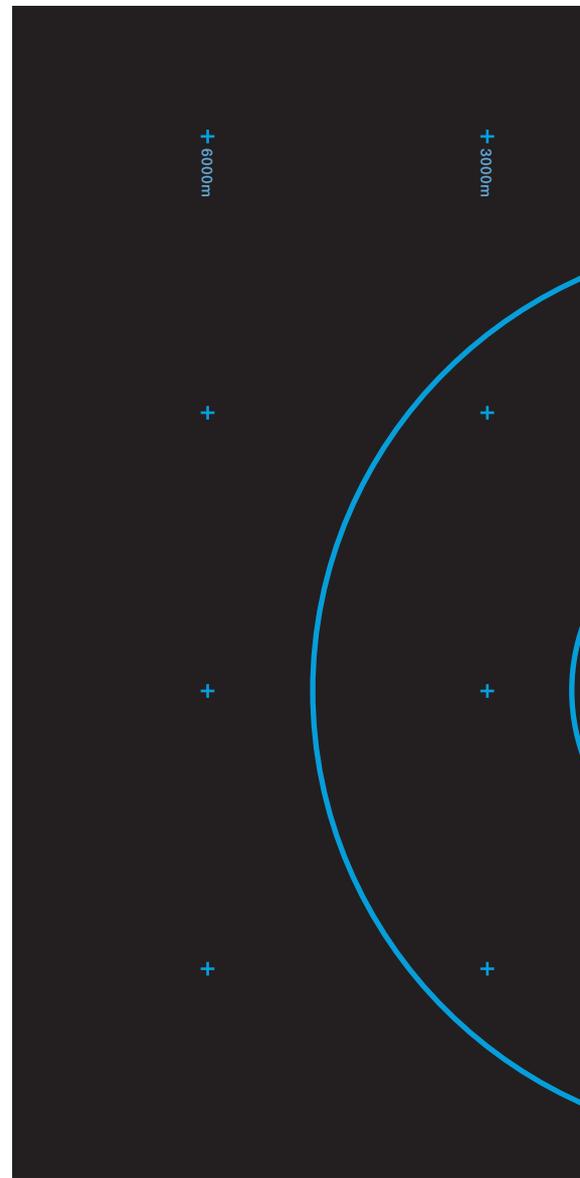
Vessel and vehicle hardware is easy to install and configure. It can track your equipment to beyond 7,000 metres and update its position every second. It's engineered for shallow water, deep water, high elevation and multi-user operating scenarios. And if your vessel's fitted with a DP system – regardless of what make it is – Ranger 2 can interface with it.

### THE ONLY USBL YOU'LL NEED

Every survey, ocean science, DP and seismic exploration project is different; different water depths, different vessels and different targets to position. But that shouldn't mean you need a different USBL system for each one.

Ranger 2 comes with an impressive list of standard features. As your needs grow and become more complex, so too can the capabilities of Ranger 2 thanks to software feature packs available in three versions; Survey, Dynamic Positioning and Professional – all of which can be remotely activated\* in the field.

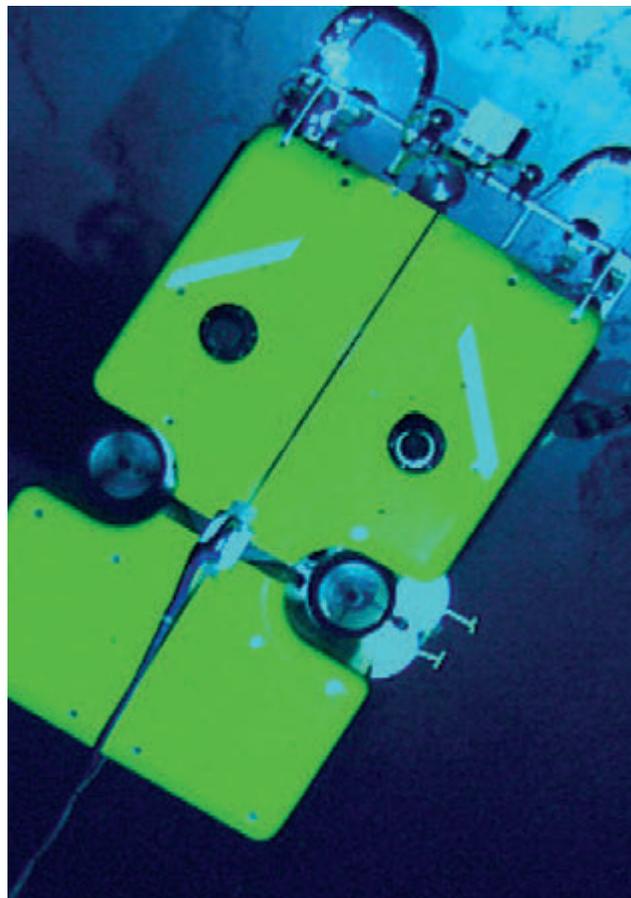
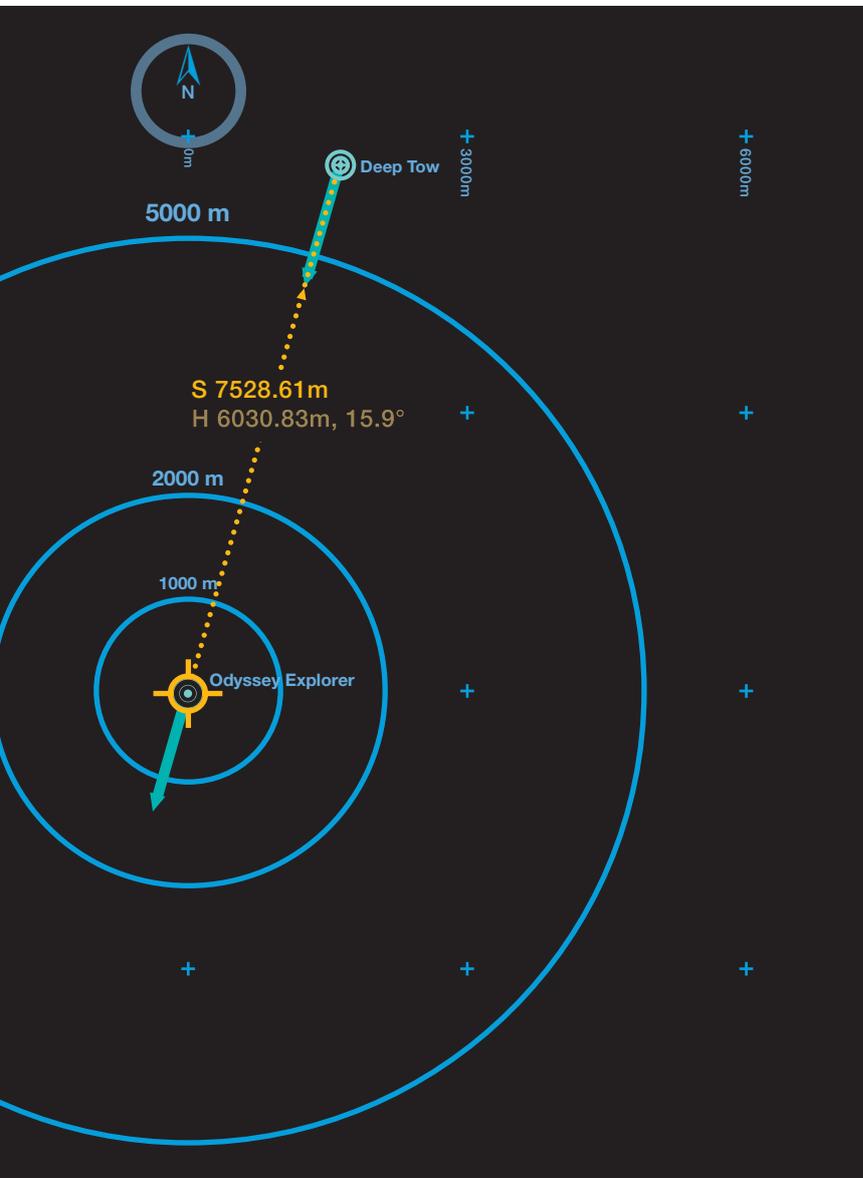
\*Subject to having the appropriate hardware available on board



### WHY IT'S GOOD FOR YOUR OPERATIONS

- Simple, intuitive software
- Tracks an unlimited number of targets; ROVs, towfish, AUVs...
- Operating range beyond 7,000 metres
- Better than 0.1% system accuracy when optimised
- Up to 1 second position updates
- Compatible with all makes of DP system
- Automated setup reduces vessel delays
- Application packs available bringing extra features specific to your operations
- User training available worldwide
- Multi-user capable
- Track record of success on all types of vessel
- Support available globally 24/7





# RANGER 2 USBL FOR SURVEY

**WHETHER YOU ARE CONDUCTING A HYDROGRAPHIC SURVEY WITH A TOWFISH, MONITORING THE TOUCHDOWN POSITION OF A PIPELINE OR LOWERING AND LANDING STRUCTURES ONTO THE SEABED, RANGER 2 HAS ALL THE CAPABILITY YOU NEED IN ONE APPLICATION. THE OPTIONAL SURVEY PACK UNLOCKS A HOST OF ADDITIONAL FEATURES TO FURTHER OPTIMISE THE PERFORMANCE OF YOUR RANGER 2 SYSTEM FOR THE MAJORITY OF OFFSHORE CONSTRUCTION AND SURVEY TASKS.**

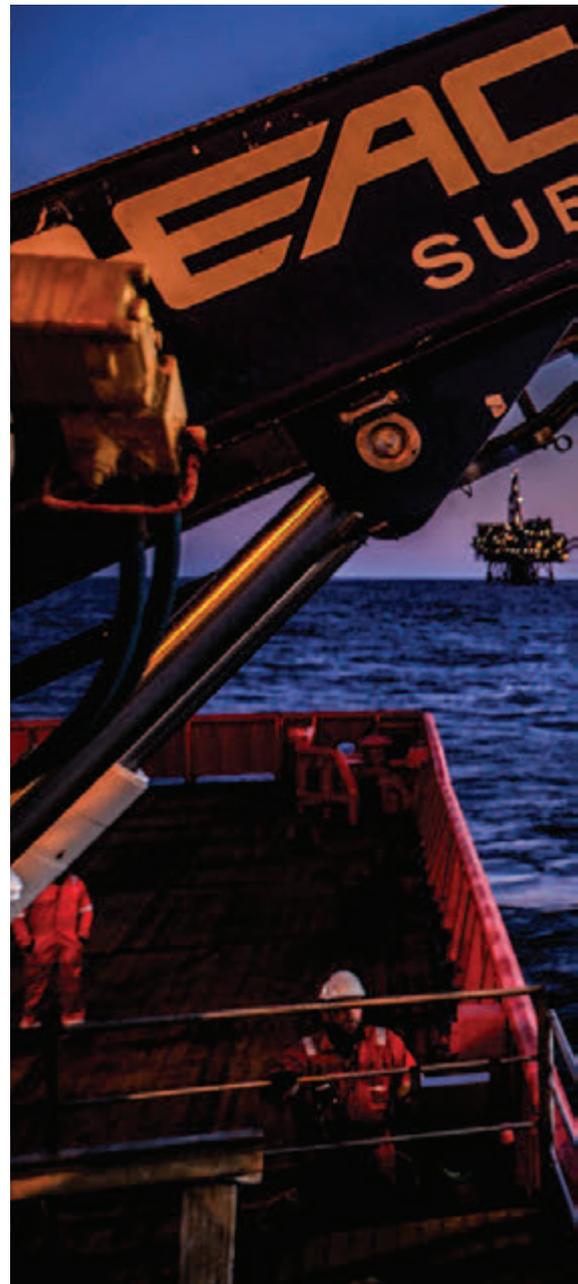
## RANGER 2 SURVEY PACK

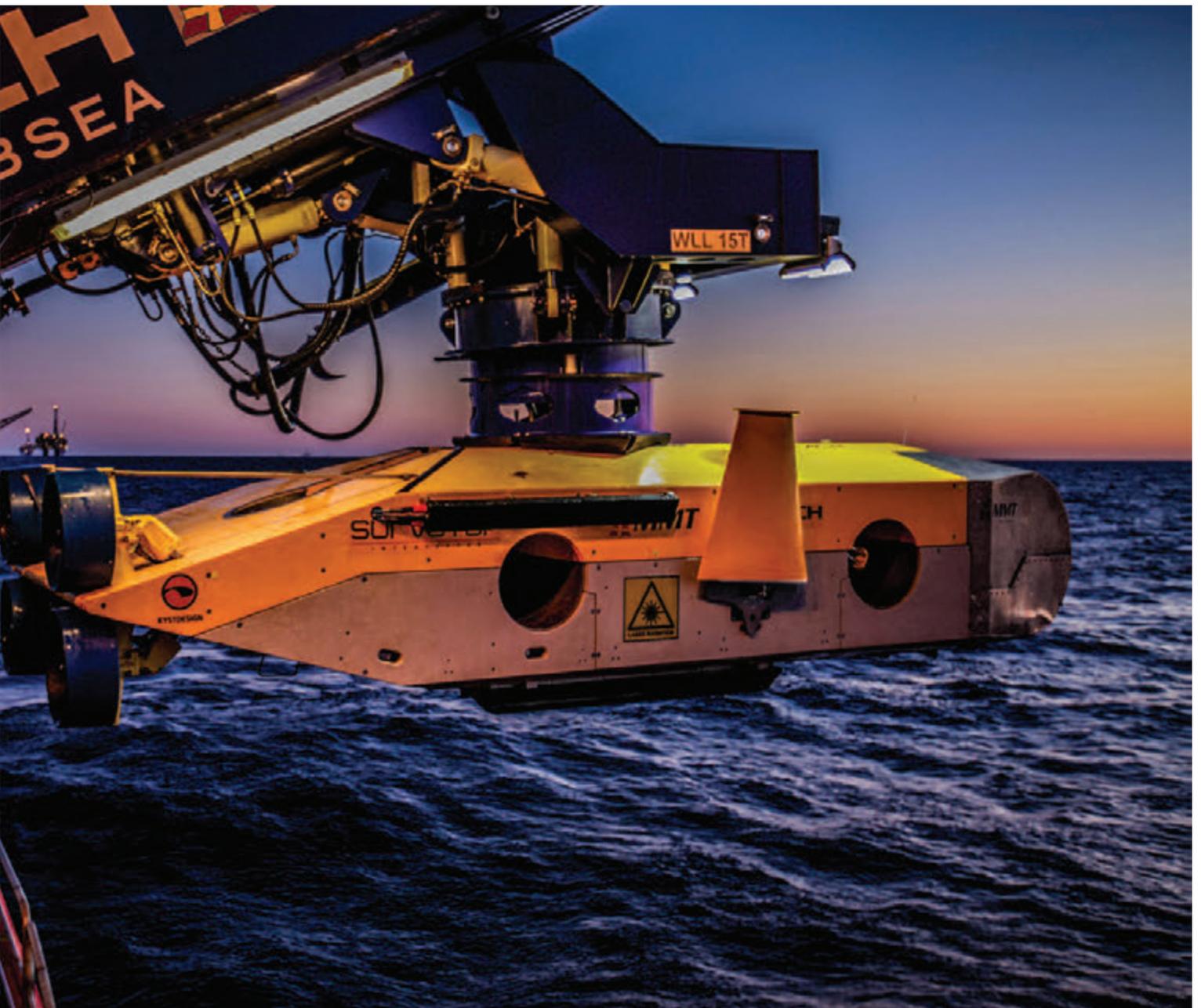
The Ranger 2 Survey pack uses the intuitive and simple layout as the standard software but allows access to more complex areas such as the setup and tracking of ROVs, AUVs and structures. These objects can be configured with multiple transponders attached to them and fixed offsets can then be computed to points such as a structure's CRP or an ROV's bumper bar which can be both displayed on-screen with their position output.

Being able to work in this manner directly in the USBL software benefits your surveys as any sensor latency induced errors are minimised, and the risk of systematic errors from the use of incorrect offsets is reduced. AutoCAD backdrops and configurable seabed geodesy allow Ranger 2 Survey to be used for tracking and guidance. Complex doesn't have to be complicated.

## WHY IT'S GOOD FOR SURVEY

- Up to 0.07% slat range tracking performance using GyroUSBL
- Supports complex tracking scenarios such as structures and vehicles with multiple transponders and multiple remote offsets
- Importable AutoCAD DXF field backdrops
- Built-in seabed geodesy package
- Configurable UI to suit multiple project tasks
- Tools to configure stinger-mounted GyroUSBL transceivers
- System can be shared with DP





## RANGER 2 USBL FOR

# DYNAMIC POSITIONING

**OUT OF THE BOX, RANGER 2 IS A HIGHLY CAPABLE ACOUSTIC POSITION REFERENCE SYSTEM THAT YOU CAN INTERFACE WITH ANY DP SYSTEM INCLUDING GE, KONGSBERG, MT, NAVIS, ROLLS-ROYCE AND WÄRTSILÄ. BUT IF YOUR VESSEL UNDERTAKES CRITICAL STATION KEEPING ACTIVITIES IN ULTRA-DEEP WATERS, THE RANGER 2 DP PACK OFFERS ENHANCED LEVELS OF POSITIONING INTEGRITY. DEVELOPED TO MEET THE REQUIREMENTS OF CLASS 2 AND 3 RULES, IT'S PERFECT FOR HEAVY CONSTRUCTION, WELL INTERVENTION, SALVAGE AND PRODUCTION VESSELS.**

### RANGER 2 DP PACK

The DP pack's stand-out feature is its ability to support Long and Ultra-Short BaseLine (LUSBL) and inertial navigation (DP-INS) configurations.

LUSBL exploits the greater precision and acoustic range redundancy offered by Long BaseLine (LBL) seabed transponder arrays where accuracy is virtually independent of water depth. And because Ranger 2 is built around our exclusive Wideband 2 signal architecture, you have the freedom to deploy your own transponder array without interrupting others, or share one that is already deployed in the field, saving vessel time and lowering your costs.

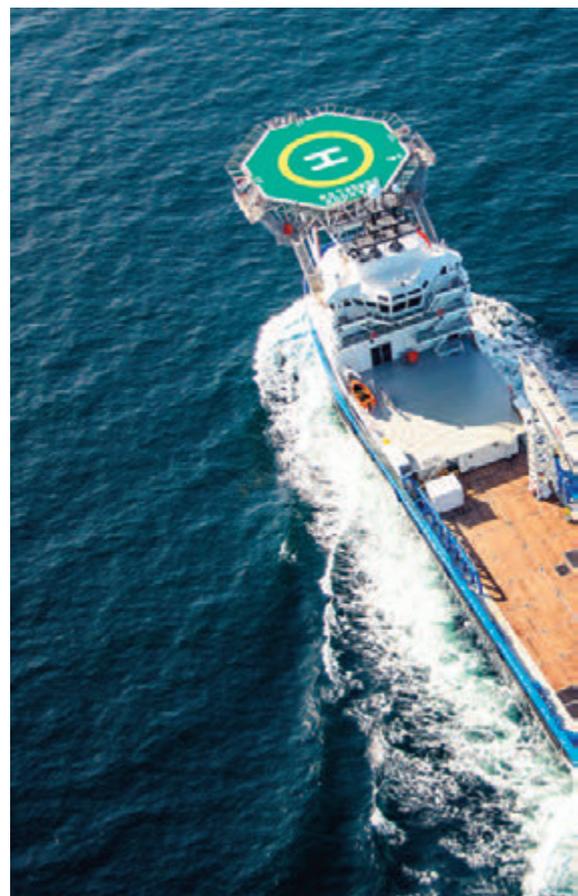
Tightly integrated acoustic and inertial positioning benefits your DP system by improving the accuracy, update rate and reliability of the position. The inertial navigation system can be aided by a single USBL transponder or multiple transponders – but far fewer than a conventional LBL array. Transponders can also be set to a slower update rate, extending their battery life saving deployment and calibration time and extending service intervals.

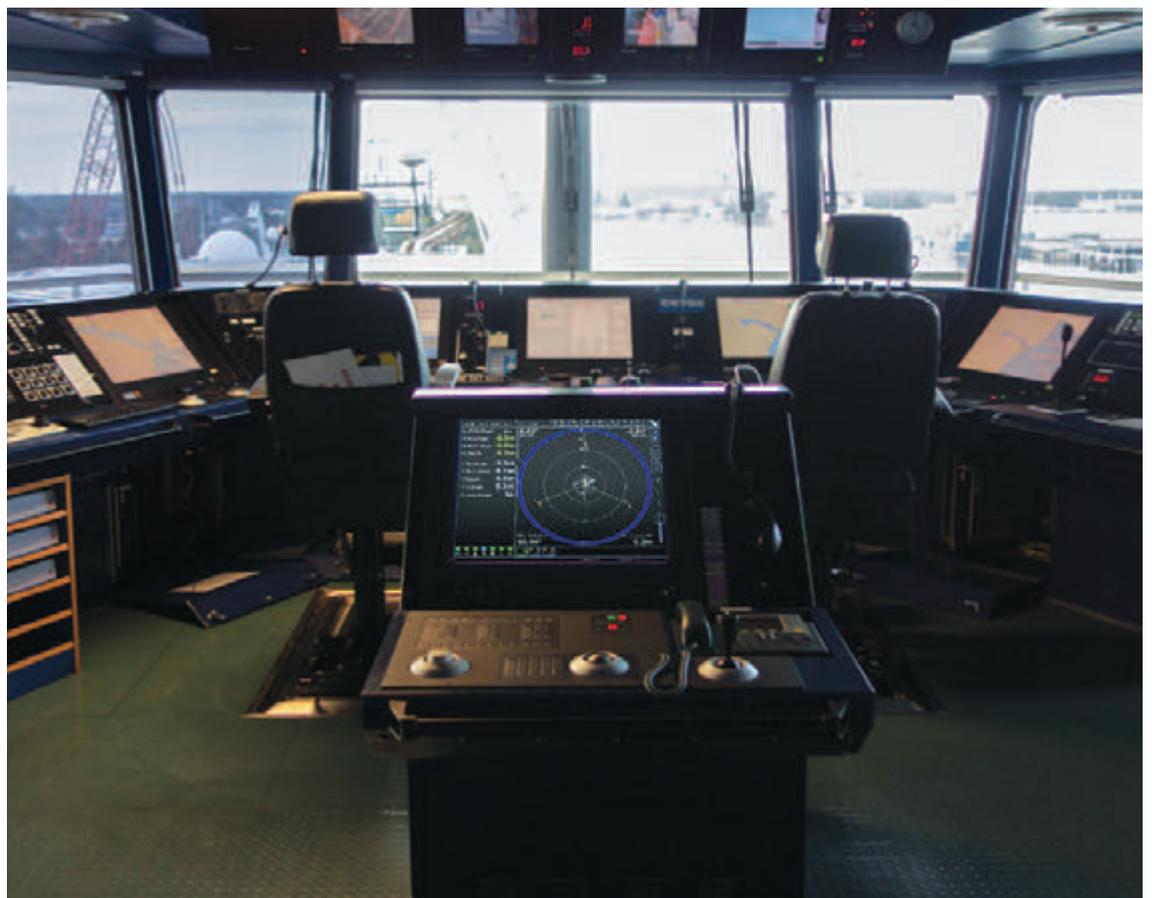
### DPO FRIENDLY

DPOs quickly feel comfortable using Ranger 2's easy and intuitive software. Automatic discovery of Sonardyne transponders and array planning tools are included as standard whilst real-time quality indicators, noise analysis and signal travel time displays are just some of the extra tools available to help them optimise performance.

### WHY IT'S GOOD FOR DP

- High integrity positioning for critical deep water operations
- Fully compatible with all makes of DP system
- Cost effective for owners and shipyards
- Less wiring, fewer components and smaller gate-valve than comparable systems
- Easy to learn, easy to use
- DP-INS for added reliability and operational savings
- Dual transceivers for added accuracy





# RANGER 2 USBL FOR EXPLORATION

**WITH ITS ABILITY TO SIMULTANEOUSLY TRACK MULTIPLE SUBSEA TARGETS, RANGER 2 IS IDEAL FOR MARINE SEISMIC OPERATIONS WHERE VERY LARGE AREAS OF THE SEABED ARE COVERED WITH NODES AND THEIR PRECISE LOCATIONS CONFIRMED BEFORE ACQUISITION CAN BEGIN. BUT RANGER 2 DOES MORE THAN SIMPLY POSITIONING. THE HIGH-SPEED ACOUSTIC COMMUNICATIONS BUILT INTO EACH NODE-MOUNTED 6G TRANSPONDER MEANS THAT DURING A SURVEY, DATA CAN BE UPLOADED TO THE SURFACE TO LET YOU KNOW EACH NODE'S STATUS.**

## FROM SHALLOW TO DEEP

Seismic surveys using Ocean Bottom Nodes (OBNs) are a popular method of acquiring high resolution reservoir imagery. Ranger 2 USBL is used to determine the locations of thousands of marine seismic nodes – or the ROVs that deploy them – when operating in the transition zone all the way to very deep water.

When ROVs are used, Ranger 2 integrates seamlessly with our SPRINT INS and Syrinx DVL products to maximise ROV positioning performance. This minimises the number of observations required to achieve your project's specification.

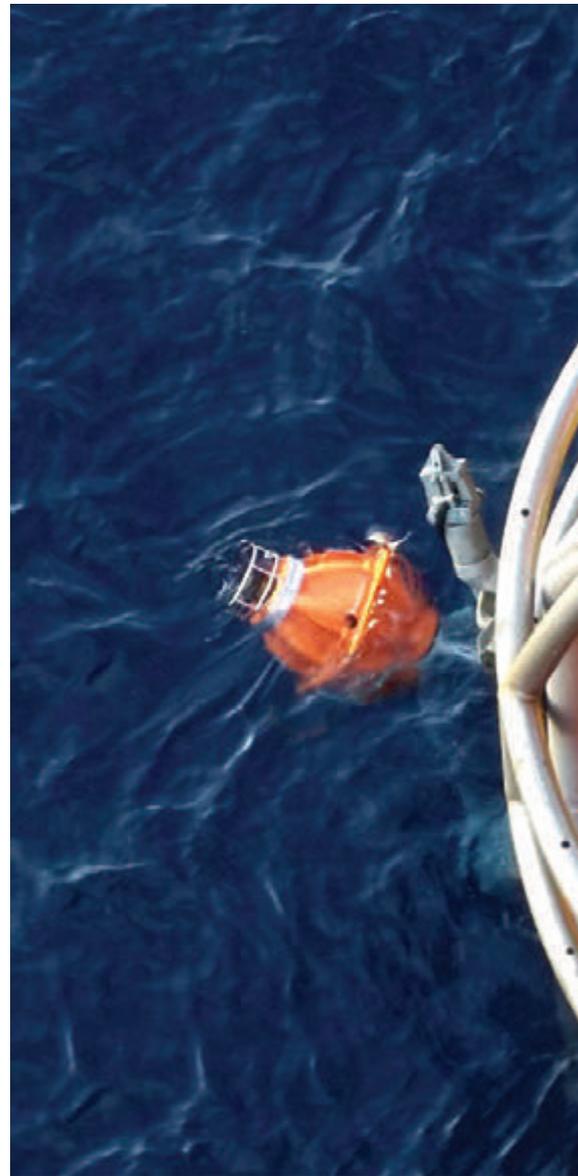
## THIRD PARTY SOFTWARE INTERFACES

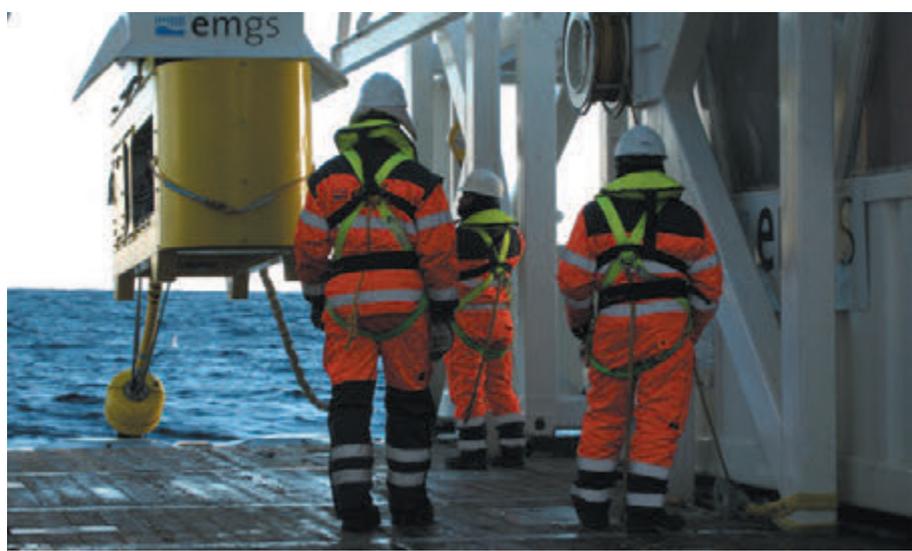
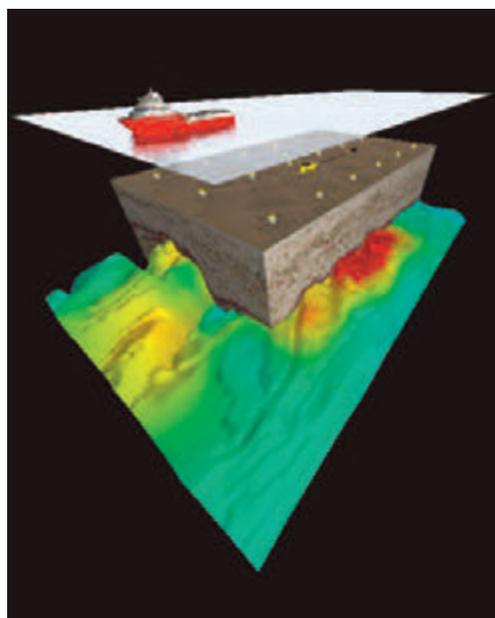
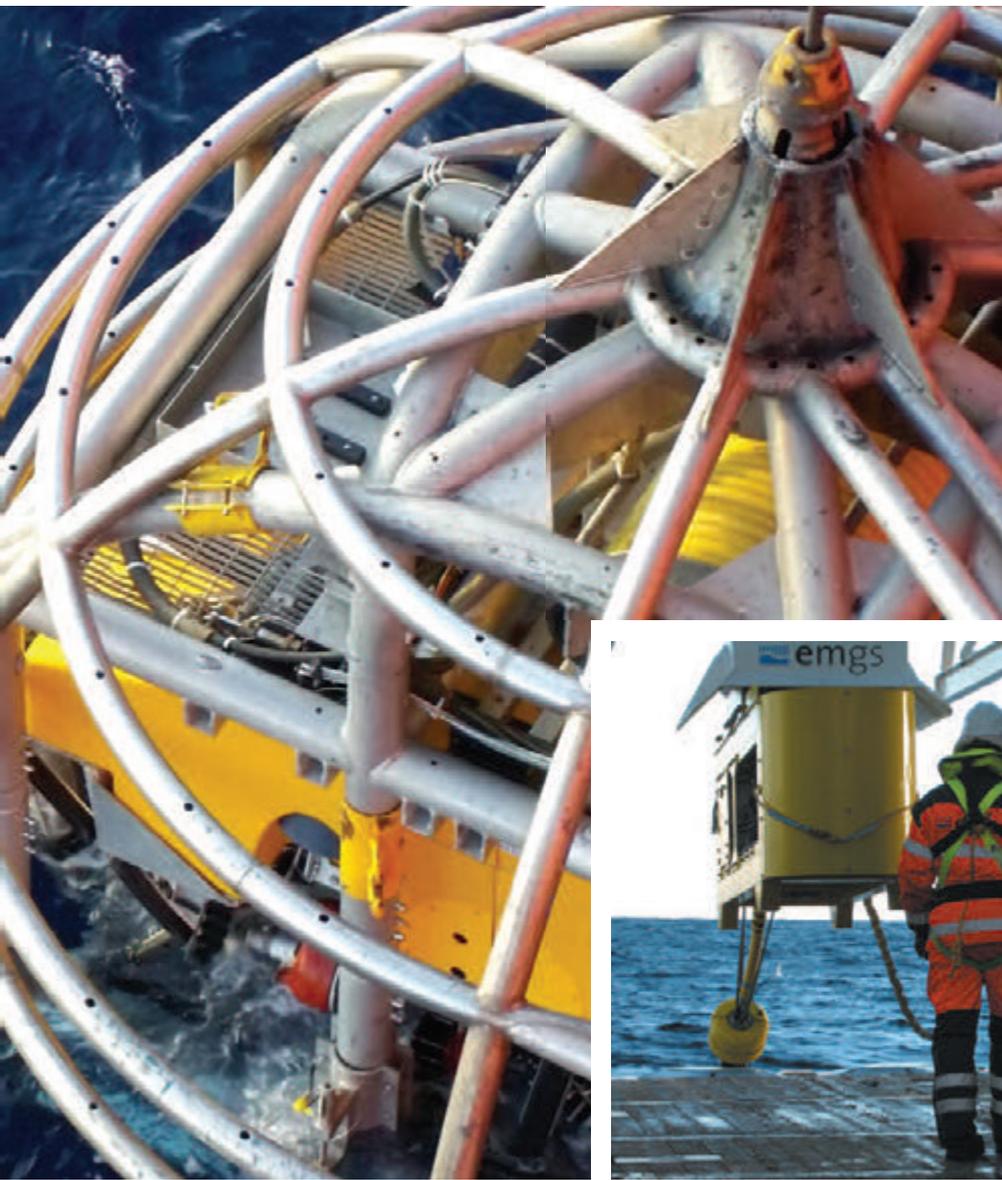
Node deployment operations are typically conducted under the control of third party navigation packages such as HydroPos and Gator II so Ranger 2 comes with a remote control interface provided as standard.

Once your survey is complete, the precision offered by Ranger 2 allows an ROV pilot to navigate directly to each node to recover it. This saves time and ensures no hardware is left behind on the seabed. Alternatively, the transponders attached to each node can be acoustically commanded to release anchor weights so that the entire instrument floats up to the surface.

### WHY IT'S GOOD FOR EXPLORATION

- Thousands of unique transponder addresses permit large node arrays without identity repetition.
- Compatible with Sonardyne ROV based INS and DVL products for seamless operation.
- High update rate maximises deployment speed.
- Quick to install on vessels of opportunity using pre-calibrated transceivers
- Remote control interface to standard seismic navigation systems such as HydroPos and Gator II.





## RANGER 2 USBL FOR

# OCEAN SCIENCE

**CHOSEN FOR ITS ABILITY TO TRACK A WIDE VARIETY OF SCIENTIFIC PACKAGES AT RANGES UP TO 10,000 METRES, RANGER 2 IS THE PREFERRED USBL SOLUTION FOR MANY OF THE WORLD'S LEADING OCEAN RESEARCH INSTITUTES. IT IS A KEY ENABLER FOR THEIR VESSELS AND HAS THE FLEXIBILITY TO MEET THE PRECISE IN-WATER AND NEAR-BOTTOM SUSTAINED OBSERVATION NEEDS OF SCIENCE USERS WORKING NEARSHORE, COASTAL AND DEEP OCEAN.**

### MAXIMISING SCIENCE TIME, MINIMISING DOWNTIME

Science users rarely have the luxury of remaining on site for long, so Ranger 2's ability to position instruments such as corers, camera platforms and geological drills without having to first deploy a seabed array of transponders, helps you maximise precious ship time. It can even be used to activate compatible acoustic release transponders, allowing you to release and track your moorings all the way to the surface for immediate recovery on board.

If your research involves using a vessel of opportunity, then the benefits of using Ranger 2 begin before you've left port. Our pre-calibrated, all-in-one GyroUSBL transceiver is perfect for installation on a temporary over-the-side mounting arrangement yet delivers the same precision as a permanent installation.

### ULTRA-DEEP TOW

Ranger 2's unique Inverted USBL (iUSBL) mode, a feature of the Survey pack, is perfect for deep tow, extreme layback towfish tracking. Rather than mounting the USBL transceiver on the vessel in the traditional manner, with iUSBL, the transceiver is installed on the towed body itself. Because towfish are typically quiet, the signal-to-noise ratio is significantly improved which provides longer ranges and greater precision.

### AUV OPERATIONS

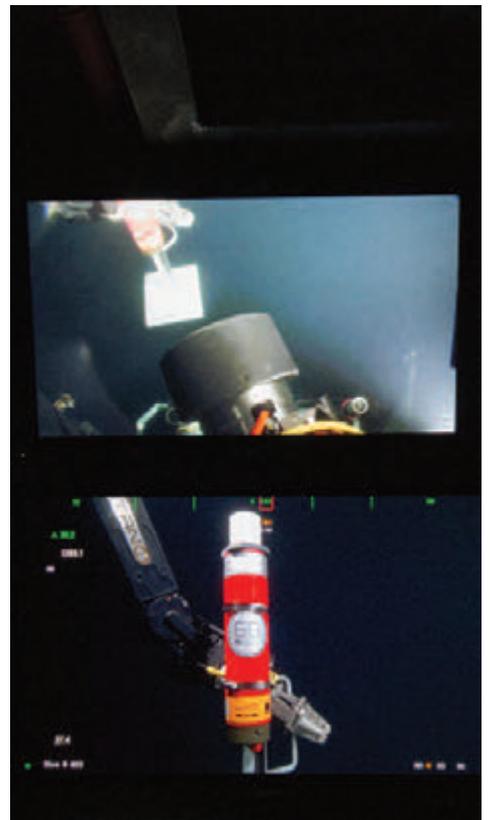
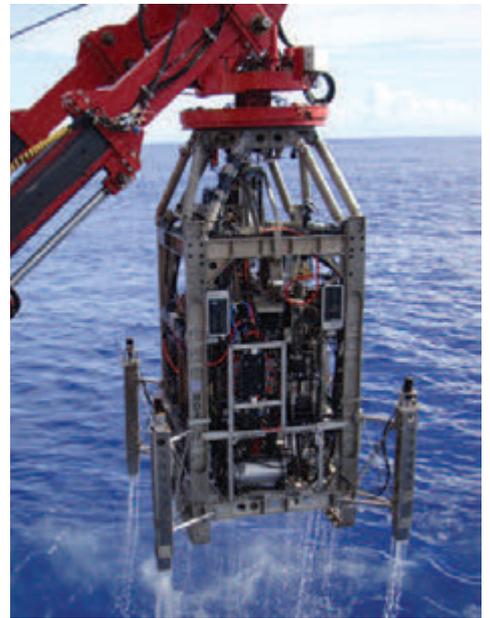
When paired with Av-Trak 6, Ranger 2 enhances AUV operations, combining telemetry and positioning. The 6G Sonardyne Messaging Service supports the transfer of vehicle mission updates and USBL reference positions to the AUV, as well as status messages from it, and AUV-to-AUV telemetry.

### SEABED GEODESY

Ranger 2's flexibility allows you to recover data from our Autonomous Monitoring Transponders, which are increasingly being used for the long term measurement (up to 10 years) of seabed tectonic deformation. With both MF and LMF options available to support this capability, Ranger 2 HPTs can also be supplied as stand-alone modems for over-the-side wire deployment on ships not fitted with a Ranger 2 system.

### WHY IT'S GOOD FOR OCEAN SCIENCE

- Tracks AUVs, ROVs and other equipment to full ocean depth
- Maintains performance in noisy, shallow water environments
- Built-in fast data telemetry capability
- Supports MF and long range LMF operating bands
- Easy to install on vessels of opportunity
- Inverted USBL mode for tracking over long laybacks
- Software is simple and intuitive
- Compatible with all DP systems

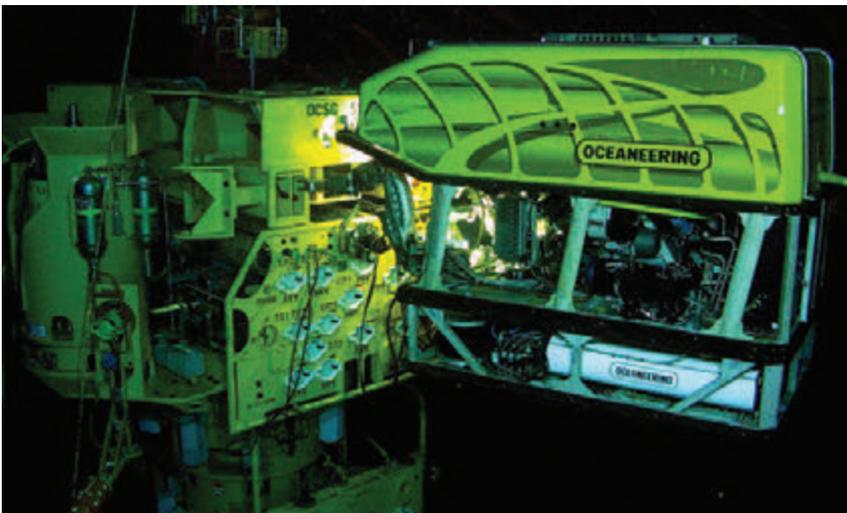




## RANGER 2 USBL FOR

# UNRIVALLED CAPABILITY

**BE PREPARED FOR ANY VESSEL AND SUBSEA POSITIONING SCENARIO BY CHOOSING THE HIGHEST SPECIFICATION RANGER 2 PACK AVAILABLE – PROFESSIONAL. WITH THIS FEATURE PACK INSTALLED, YOU AND YOUR VESSEL HAVE GOT THE UNRIVALLED ABILITY TO SELECT WHICHEVER FEATURE YOU WANT, WHEN YOU WANT IT**



### RANGER 2 PROFESSIONAL PACK

Whether it's to provide an acoustically aided reference telegram to a DP desk whilst simultaneously tracking a complex structure with multiple transponders attached, or tracking an ROV overlaid on a geodetic backdrop whilst outputting an LUSBL DP telegram, Ranger 2 USBL Professional can do all this and more.

### SURVEY AND DP

Ranger 2 Professional directly benefits multi-purpose vessels by enabling you to take advantage of the powerful position reference features found within the DP pack along with all the tracking features found within the Survey pack. This enables vessels to operate using a single USBL system for both DP and construction survey tasks which makes ownership and operation much simpler.

Professional retains the same easy to use UI of the standard version enabling you to make the switch with the minimum of extra training required. And, like the Survey pack, the UI can display exactly what you want to see.

### WHY IT'S GOOD FOR ANY OPERATION

- Up to 0.07% slant range tracking performance
- Full support for aided INS and LUSBL vessel DP references
- Capability to track structures and vehicles with multiple transponders and multiple remote offsets
- Can operate in Standard and Optimised tracking modes
- Easy to install on vessels of opportunity
- Support for all Sonardyne 6G USBL transceivers, transponders and responders
- Configurable UI to suit multiple project tasks





## SHIP FIT EQUIPMENT

# BRIDGE & INSTRUMENT ROOM

**EASIER, FASTER AND NOW MORE CONFIGURABLE. THE LATEST VERSION OF RANGER 2 OPERATING SOFTWARE IS UNLIKE ANY OTHER ACOUSTIC POSITIONING SOFTWARE PACKAGE AND BRINGS TOGETHER ALL THE FEATURES SURVEYORS, SCIENTISTS AND DPOS TOLD US THEY WANTED TO SEE. IF YOU'VE NEVER USED A USBL SYSTEM, YOU'LL QUICKLY FEEL COMFORTABLE USING RANGER 2 AND IN NO TIME, BE READY TO CONFIGURE YOUR FIRST UNDERWATER TRACKING OPERATION. IT'S ALSO DESIGNED SPECIFICALLY TO TAKE ADVANTAGE OF THE POWERFUL FEATURES CONTAINED WITHIN EVERY 6G TRANSPONDER AND TRANSCIVER.**

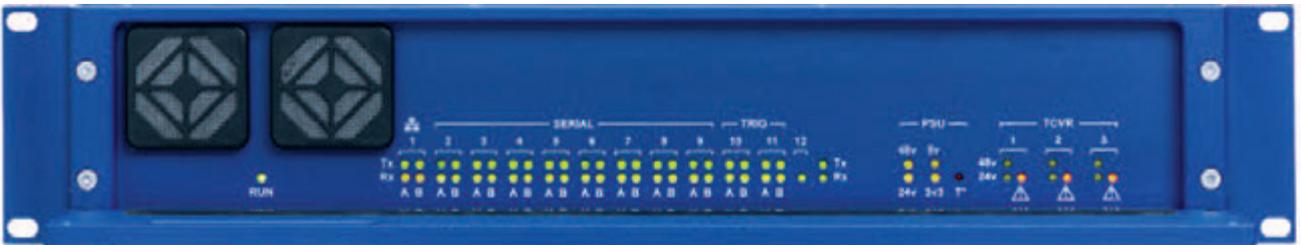


### ALL THE TOOLS YOU NEED

Ranger 2 benefits from a completely revised main UI, a centralised transponder management table, an array planning tool for DP operations, configurable displays, and integrated support for iWand, our go-anywhere back deck test and configuration device for 6G transponders. And when you need them, remote infield upgrades unlock extra features – ensuring you only pay for what you need.

- Highly configurable navigation chart with layers
- Importable DXF backdrops
- Remote control and output telegrams
- Built-in performance verification and optimisation tools
- Automatic detection of previously deployed transponders including configured address





## NAVIGATION PC (NAVPC)

The NavPC and NSH are designed to meet the complete on-board requirements of any Ranger 2 positioning operation. Featuring an Intel® Core i7 processor, the NavPC is purpose built to run the family of Ranger 2 software applications and is proven to withstand the rugged environmental conditions associated with marine operations. It measures just 2U high so is ideally suited for mounting in an instrument rack, portable case for temporary installations or within a DP desk.

- Designed to industrial PC standards
- Internal security dongle
- Shock-mounted hard drive
- Dual screen (VGA, DVI or HDMI)
- Ethernet or Serial interface to NSH

## NAVIGATION SENSOR HUB (NSH)

The NSH is the interface between the in-water acoustic instruments, sensors and the NavPC which runs the Ranger 2 positioning software. In addition to accurately time-stamping incoming data from external devices such as gyros, VRUs and GNSS, the NSH also provides power and communications for ship-borne acoustic transceivers.

- Configurable for stand-alone or dual independent modes
- Up to 16 Ethernet or serial interfaces
- 6 transceiver serial ports providing 24/48 V DC power
- Sub-microsecond time-stamping on all Tx/Rx data

## SHIP FIT EQUIPMENT

# TRANSCEIVERS

WHEN IT COMES TO USBL TRANSCEIVERS, ONE MODEL DOES NOT FIT ALL SITUATIONS AND VESSELS. THAT'S WHY OUR HIGH PERFORMANCE TRANSCEIVER (HPT) IS AVAILABLE WITH DIFFERENT ARRAY DESIGNS RANGING FROM FULL HEMISPHERICAL COVERAGE TO DIRECTIONAL DESIGNS FOR ULTRA-DEEP WATER AND HIGH VESSEL NOISE OPERATING ENVIRONMENTS. HPT TRANSCEIVERS CAN ALSO BE USED AS WIRELESS MODEMS FOR AUTONOMOUS MONITORING TRANSPONDER SETUP AND DATA RETRIEVAL AS WELL AS SUPPORTING LBL OPERATIONS.

### TOWFISH MOUNTED



### iUSBL/GYROiUSBL

A subsea vehicle based transceiver that turns conventional USBL tracking on its head. Designed for projects using deep tow, long layback survey platforms requiring high precision.



### HPT 13000

A specialist USBL transceiver available to support tracking projects in the deepest water. The large array and advanced multi-element signal processing enables transponders to be tracked with ultimate precision.



### LMF HPT

A Low Medium Frequency (14-18kHz) transceiver to ensure maximum data telemetry rate and positioning range whilst providing simultaneous multi-user operation with systems in other bands of operation. Identical functionality to that of Medium Frequency band HPT instruments.



### GYROUSBL 5000/7000

Lodestar subsea AHRS sensor and HPT transceiver in one unit. GyroUSBL can be pre-calibrated for rapid and cost-effective deployment on vessels of opportunity. Available with standard and deep water optimised arrays.



### HPT 7000

A USBL and LUSBL transceiver optimised for noisy dynamically positioned drilling and construction vessels operating in deep water. Vessel and thruster noise is rejected.



### HPT 5000

Enables subsea targets to be tracked with precision and repeatability over a wide range of water depths and elevations. Supports high speed 6G data telemetry mode.



## SHIP FIT EQUIPMENT

# OPTIONS

### OPTIMISED USBL

The positioning accuracy obtainable from Ranger 2 can be further improved by co-locating Lodestar, our premium quality Attitude and Heading Reference system (AHRS), with your vessel's 6G acoustic transceiver.

Known as Optimised USBL, the advantage of this configuration is that raw USBL range and bearing data is simultaneously processed with the Lodestar's attitude data. This achieves a tightly compensated solution that enables a system accuracy of 0.1% of slant range to be achieved. Available with standard Ranger 2 systems, or those enabled with Survey, DP and Professional feature packs.



**TIP** If you don't need the extra performance offered by Optimised USBL, the bridge-installed version of Lodestar is a cost effective replacement for your ship's gyro and VRU.



### DP-INS

For tightly integrated acoustically-aided inertial DP operations, you will need to install our DP-INS sensor to work alongside your Ranger 2 system.

GyroUSBL transceivers have this sensor built-in, its capability simply needs to be enabled. Alternatively, we offer a stand-alone unit for installing on your bridge or deployment machine. Both units incorporate three Ring Laser Gyroscopes and three accelerometers selected for use for their performance, high mean time between failure (MTBF) and ease of export (non ITAR). These sensors have highly stable error characteristics and are compensated for temperature variation.



**TIP** Did you know we use RLGs and inertial sensors with a 400,000hrs MTBF, proven over 15 years of use in almost every commercial airliner?



### VIEWPOINT REMOTE WORKSTATION

If you want to share and visualise positioning data from your Ranger 2 system with other teams on board, then you will need a Viewpoint remote display workstation.

It enables you to transform co-ordinates of surface vessels, subsea vehicles and structures into geographical information overlaid on easy-to-use guidance displays. When changes to Ranger 2 are made, such as adding a new tracked target, they automatically appear on ViewPoint workstations. And because it is serially interfaced with Ranger 2, Viewpoint is totally secure; there is no way to affect live survey and DP operations.



## TRANSCIEVER DEPLOYMENT – PERMANENT

USBL system performance is seriously degraded by poor transceiver mounting and deployment so we've developed a family of highly engineered deployment machines suitable for any situation. Validated on hundreds of vessels, our through-hull hydraulic deployment machine is ideal for permanent installations and features a stiff, corrosion-resistant pole, high integrity bearing and sealing design and reliable hydraulic actuation with safety interlocks, sea chest for access, and remote control options.

Where through-hull deployment via a gate valve is not available or practical, a through-tube machine is available. Modular, easy to transport sections accommodate any pole length and once deployed, the pole is held rigidly in place using a self-contained hydraulic clamping mechanisms.



## TRANSCIEVER DEPLOYMENT – TEMPORARY

For short term projects using a vessel of opportunity, our modular over-the-side deployment pole provides a cost-effective and practical solution. Pole lengths can be adjusted by adding or removing sections and once the assembled pole is lowered and locked into position, a high degree of stability is assured.

- High performance, high integrity survey grade deployment system
- Drag and vortex reducing strakes
- Deck and hull mount options
- Sectional pole allows length to be configured for each vessel
- Good corrosion resistance
- Custom design available for other manufacturers instrumentation
- Easy to transport and assemble



## VEHICLE FIT/SEABED EQUIPMENT

# TRANSPONDERS

### WIDEBAND SUB-MINI 6+ (WSM 6+)

Included with any purchase of our Ranger 2 USBL system, WSM 6+ is the ideal choice of transponder for tracking mobile underwater targets such as a towfish, crane wire, ROV and manned submersible. 2-way wideband signals ensure reliable acoustic performance in all conditions.

- Small and rugged
- 1,000 metre and 4,000 metre depth ratings
- Omni-directional or directional transducers
- Inbuilt depth sensor aids USBL performance
- Responder mode for fast position updates
- Rechargeable battery



**TIP** iWand – use it to test and configure any 6G transponder on the back deck. You can even import their settings straight into Ranger 2.



### WIDEBAND MINI TRANSPONDER 6 (WMT 6)

If size and weight are important considerations, but you need the capability to track equipment in water depths up to 7,000 metres, look no further than the WMT 6. Its high power acoustic output means it's perfect for noisy operating environments.

- 3,000 metre, 5,000 metre and 7,000 metre depth ratings
- Available with remote transducer (3,000 metre version)
- Mini size – small and lightweight
- Full 2-way Sonardyne Wideband communications
- Responder mode for fast position updates
- Long life Li-ion battery



**TIP** If you're not using your WMT for a while, the unit's external On/Off switch helps to ensure it is always ready for your next operation.



### AV-TRAK 6

Av-Trak 6 combines the functions of a USBL transponder, LBL transceiver and wireless communications link in one low power instrument that's perfect for missions involving AUVs. Available with electronics-only for customer integration and a custom I/O for mission abort and ballast jettison.

- Combined transponder, transceiver and telemetry instrument
- Track it, navigate it and command it
- Depth ratings to 7,000 metres
- Can aid vehicle's INS system
- Remote transducer option for easy vehicle installation
- Rechargeable battery



**TIP** If space on your vehicle is limited, Av-Trak 6 can be supplied with a remote transducer allowing you to install the main electronics housing wherever you want.



## WIDEBAND RELEASE TRANSPONDER 6 (WRT 6)

WRT 6 is a dedicated acoustic release transponder which you can use with Ranger 2 to deploy, track and detach seafloor equipment and instrument moorings. It uses field-proven mechanics combined with 6G electronics to ensure interference-free operation in multi-user scenarios.

- 1,275 kg Working Load Limit (WLL)
- Higher WLL available with load maximisation frames
- Highly reliable release mechanism
- External On/Off switch to maximise battery life when not in use
- Depth rated to 3,000 metres
- Can be positioned using Kongsberg HiPAP® systems



**TIP** Load amplification frames extend the WLL of WRT 6s – perfect for structure installation projects.



## DYNAMIC POSITIONING TRANSPONDER 6 (DPT 6)

If you need an ultra-dependable, cost effective seabed DP reference transponder, DPT 6 is the answer. It's quick to set up on the back deck, easy to deploy and can be recovered without the need to send down an ROV.

- Highly reliable acoustic release mechanism
- 3,000 metre, 5,000 metre and 7,000 metre depth ratings
- Robust acoustic performance in all conditions
- Hundreds of operating channels
- Choice of sensors including depth, temperature and inclinometer



**TIP** If you're deploying a Compatt or DPT on the seabed, you'll need a floatation collar. We have designs to suit every application.



## COMPATT 6 (C6)

From Mini to Mega, C6 is the industry standard transponder used for high precision subsea survey and construction in all water depths. Available in a wide range of sizes, materials, sensor and battery configurations, ask us which one is right for your project.

- Multi-functional transponder; supports USBL, LBL, modem and gyro applications
- Mini, Midi, Standard, Mega and Maxi sizes
- Can be used by multiple users simultaneously
- Extensive choice of sensors, depths and batteries
- Global track record of success



## SUPPORT

# WE INSTALL, WE TRAIN, WE MAINTAIN.

**WITH SEVERAL THOUSAND USBL INSTALLATIONS SUCCESSFULLY UNDERTAKEN, WE HAVE THE EXPERIENCE TO WORK SIDE-BY-SIDE WITH YOUR NAVAL ARCHITECT, SHIPYARD, DP SUPPLIER AND CREW TO MAKE THE PROCESS OF INVESTING IN RANGER 2 PROBLEM-FREE AND LOW-RISK. IT'S ALL PART OF THE SERVICE THAT HELPS LOWER YOUR OPERATIONAL RISK, SPEED UP YOUR SUBSEA OPERATIONS AND KEEP VESSEL DOWNTIME TO A MINIMUM.**

### EXPERT ADVICE

Our long-term partnership with clients has enabled us to develop a unique and extensive insight into the diverse nature of underwater operations and the associated commercial and operational pressures. We understand that the technology investment decisions you take today, will affect your operational capability for years to come so they need to be right.

That's why you can trust our global commercial and technical teams to give you expert advice on which Ranger 2 system is best for you, how to finance it (now including lease rental), where and how it should be installed, what transponders you need and the typical performance you can expect to see based on how and where you'll be using it.

### OPERATOR TRAINING

Making sure that you get the very best out of your Ranger 2 system once it is installed and commissioned is the goal of our operator training programme. From standard courses run at our worldwide centres to bespoke courses held on your vessel, Sonardyne's training is comprehensive and flexible.

### HELP WHEN YOU NEED IT

Once you become a Sonardyne Ranger 2 customer, you gain unrivalled access to our customer care programme. A dedicated email helpline connects you to product engineers ready to answer your questions but if it's more urgent, our 24 hour worldwide telephone help-line is standing by ready to resolve any operational issues you're facing.

### ANNUAL SERVICE VISITS

Of course, the best way to ensure your equipment always performs as it should, is to service it regularly. Book an annual service visit, and one of our field engineers will inspect the health of your vessel's system including updating software and firmware and inspecting your deployment machine to make sure regular checks are being carried out. Transponder sensors can be re-calibrated at any one of our international service centres.







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