

SEARCH AND RECOVERY (SAR) SONAR PACKAGE



KONGSBERG



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PULSAR SIDE SCAN SONAR & MS1171 SCANNING SONAR - SAR SOLUTION

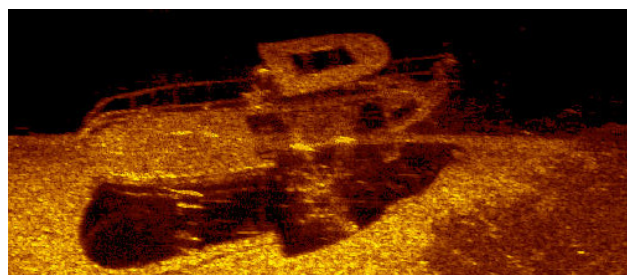
The package combines two state of the art sonar systems to deliver a marine search and recovery operation turn-key solution. The PulSAR side scan sonar is towed from small vessels of opportunity performing large area surveys in order to detect suspicious targets. The MS 1171 scanning sonar is then lowered to the sea-floor on the marked positions to provide high resolution scans to reliably identify the targets and coordinate diver operations for further investigation and recovery.

PulSAR Side Scan Sonar

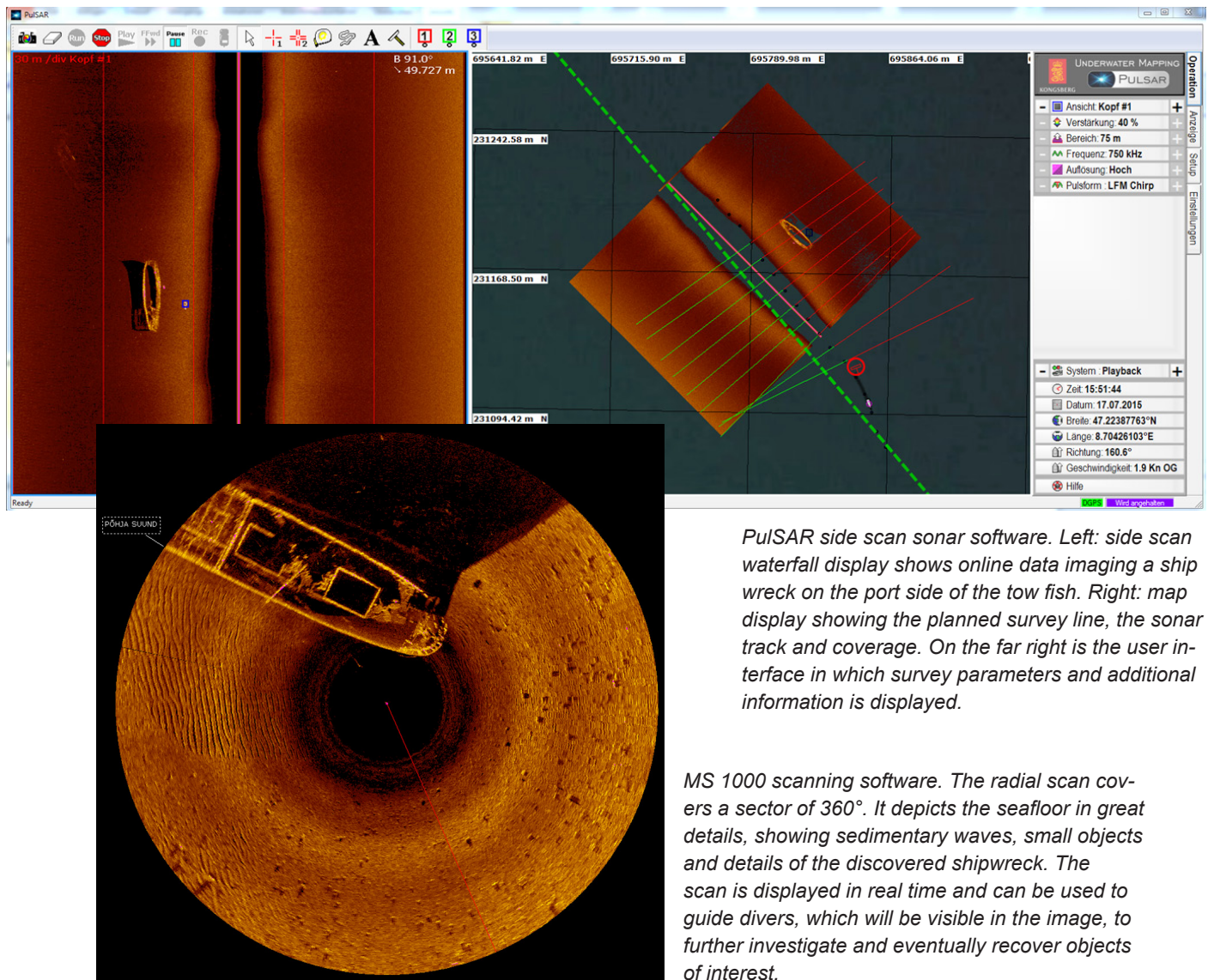
The set-up comprises a compact stainless steel towfish, which is towed from cable that is paid out from a hand reel, which is connected to the deck unit. The system has been designed for use on small vessels like open RIBs. Therefore the deck unit is water protected (IP66) and can be battery or mains powered, 24 VDC or 110/230 VAC respectively. It has an integrated GPS system that provides positioning information with SBAS differential corrections. The system is delivered with a dedicated software package running on a laptop computer connected via Ethernet. It allows the user to plan and conduct the survey and acquire sonar data with embedded positioning information. The system is designed for easy deployment and intuitive operation. It can be operated by non-specialised personnel for quickly carrying out effective surveys using vessels of opportunity in search and recovery (SAR) missions. Coverage and resolution can be adapted to the survey task. The system operates on a bandwidth of 550 kHz to 1 MHz providing coverage of up to 300 m, resulting in an area coverage of up to 2 km²/h with a tow speed of 4 knots. The resolution varies with operating frequency and across track distance from a few cm to some tens of cm.

MS 1171 Scanning Sonar

The sonar head is deployed to the seafloor on a tripod and connected to a power/telemetry interface via an umbilical. The system is operated from a laptop computer running the MS1000 software package. It scans a radius c. 35 m in minutes after it comes to rest. The system is designed to produce the highest resolution sonar images possible. It is intended for applications where data clarity and diver safety supersedes all other requirements. It operates on a frequency range of 600 kHz to 1.2 MHz offering millimeter resolution allowing for reliable target identification. Scanning results are displayed in real time allowing for diver coordination in order to fulfill recovery operations.



SYSTEM OPERATION



FEATURES

- **Turn-key search and recovery sonar package**
 - Wide area search using PulSAR side scan sonar for target detection and positioning
 - Detailed scan using MS 1171 scanning sonar for target identification and recovery guidance
- **PulSAR side scan sonar**
 - Rugged and portable tow fish
 - Water protected deck unit (IP66)
 - Hand reel with tow and deck cable
 - Intuitive easy to operate software
 - Easy deployment and operation
 - Frequency 550 kHz - 1 MHz
- **MS 1171 scanning sonar**
 - High resolution fan beam imaging head 600 kHz - 1.2 MHz
 - Tripod for seafloor deployment
 - Hand reel with deployment and interconnection cable
 - MS 1000SP USB interface unit
 - MS 1000 operational keypad
 - Field portable laptop PC
 - Hand held GPS unit
 - MS 1000 operating software
- Wide bandwidth FM and CW pulses
- Integrated GPS module (SBAS corrections)

Specifications subject to change without any further notice.