



**TELEDYNE MARINE**  
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Our passion runs deep.







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TASMAN DVL

*GRANT JENNINGS*

March 2020



# The New Tasman DVL

- Field replaceable phased array transducer
- 0.06% Long Term Accuracy (600 kHz)
- 600 kHz 0.15m to 180m bottom tracking range
- 300 kHz 0.3m to 420m bottom tracking range
- 4,000m & 6,000m depth rating
- Smaller and lighter than Workhorse Navigator
- 20 – 30% cheaper than Workhorse Navigator
- Metal shell connector
- Real Time Standard Deviation and Time of Validity data
- RS232, RS422 & Ethernet communications
- Water Tracking and Current Profiling
- Health & Environmental Sensors (HEMS)
- Integrated 600 Bar pressure sensor as standard
- LED status indicator



# Tasman Key Features

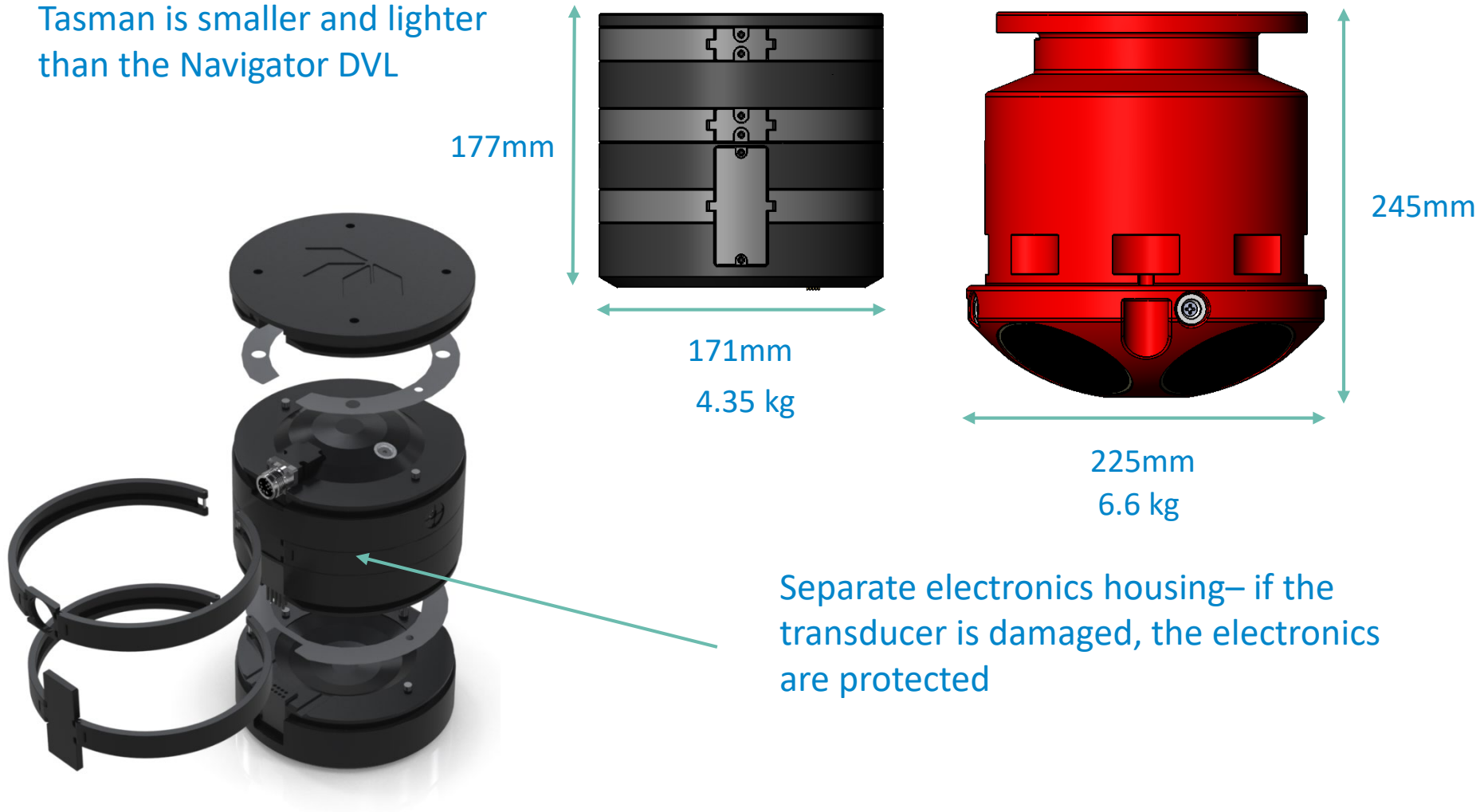
## Field Replaceable Transducer

- Unique hydrostatic field replaceable transducer design – no longer required to send DVL back to TRDI for repair, greatly reduced downtime, cost savings!
- Transducer has limited export controls with no license required to most countries worldwide



# Tasman DVL

Tasman is smaller and lighter than the Navigator DVL



# Tasman DVL

Attitude and Heading Sensors

- Latest MEMS inclinometer technology installed as standard – Roll & Pitch to 0.1°
- Optional internal SBG Ellipse AHRS sensor – Roll & Pitch to 0.1°, heading to 0.8°
- SBG Alignments and Lever Arms calibrated at RDI factory
- SBG magnetic Calibration via TRDI Toolz software



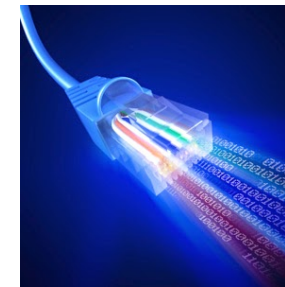
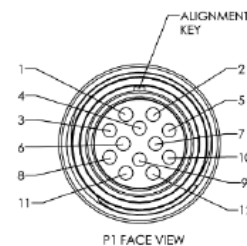
# Tasman DVL

Updated communication options

- Ethernet, RS232 or RS422
- TCP/IP
- UDP Streaming
- 32 separate data strings
- New NMEA data strings - RDI Speed Log Format (PD26) now includes \$VMVBW, \$VMDBT, and \$VMVLW messages

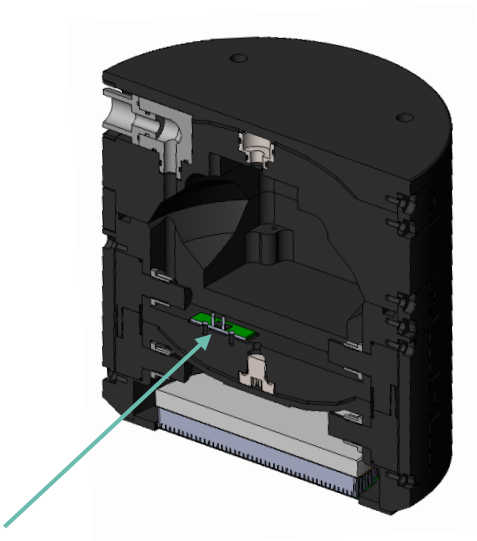


23 AWG	WHT/GRN	3	ETH_TX+
23 AWG	WHT	6	ETH_TX-
23 AWG	WHT/GRN	11	ETH_RX+
23 AWG	WHT	12	ETH_RX-
18 AWG	RED	2	VEXT+
18 AWG	BLK	5	VEXT-
23 AWG	BRN/WHT	4	RS232 RX
23 AWG	WHT	1	NC
23 AWG	BLU/WHT	10	NC
23 AWG	WHT	7	RS232 TX
18 AWG	WHT	9	COM_GND
18 AWG	GRN	8	TRIG_IN



# Health & Environment Monitoring Sensors

Features	Benefits
Leak sensor	High confidence for critically demanding deep missions
Transducer health monitor	Real-time health monitoring of your critical navigation asset



Leak Sensor

Health Monitor	
Health Status	0x00000000
Leak Sensor A	2.28 volts
Leak Sensor B	2.27 volts
Tx Voltage	24.86 volts
Tx Current	30.42 amps
Xdcr Impedance	0.817 ohms

Health Status BITS 7 6 5 4 3 2 1 0	
* * * * *	1 Leak sensor A leak detected
* * * * *	1 Leak sensor A open circuit
* * * * *	1 Leak sensor B leak detected
* * * * *	1 Leak sensor B open circuit
* * * * *	1 Tx voltage updated
* * * * *	1 Tx current updated
* * * * *	1 Transducer impedance updated

Leak Sensor: 2.5v = Sensor not Connected (0x0FFF)  
2.3v to 1.25v = No Leak Detected (0x0EB7 - 0x0800)  
less than 1.24v = Leak Detected (07FF - 0x000)



# Navigator vs Tasman

	Navigator 1200	Navigator 600	Navigator 300	Tasman 600	Tasman 300
BT Range	25m	90m	200m	100m (160m)	275m (420m)
Water Profiling	15m	50m	110m	60m	150m
Long Term Accuracy	0.2%	0.2%	0.4%	0.06% (0.2% >4m altitude)	0.08% (0.3% >8m altitude)
Depth Rating (m)	3000/6000	3000/6000	3000/6000	4000/6000	4000/6000
Diameter	20.19cm	22.52cm	22.52cm	17.1cm	17.1cm
Transducer	4-beam Piston	4-beam Piston	4-beam Piston	4-beam Phased Array	4-Beam Phased Array



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**PINNACLE ADCP**  
*PAUL DEVINE*

March 2020



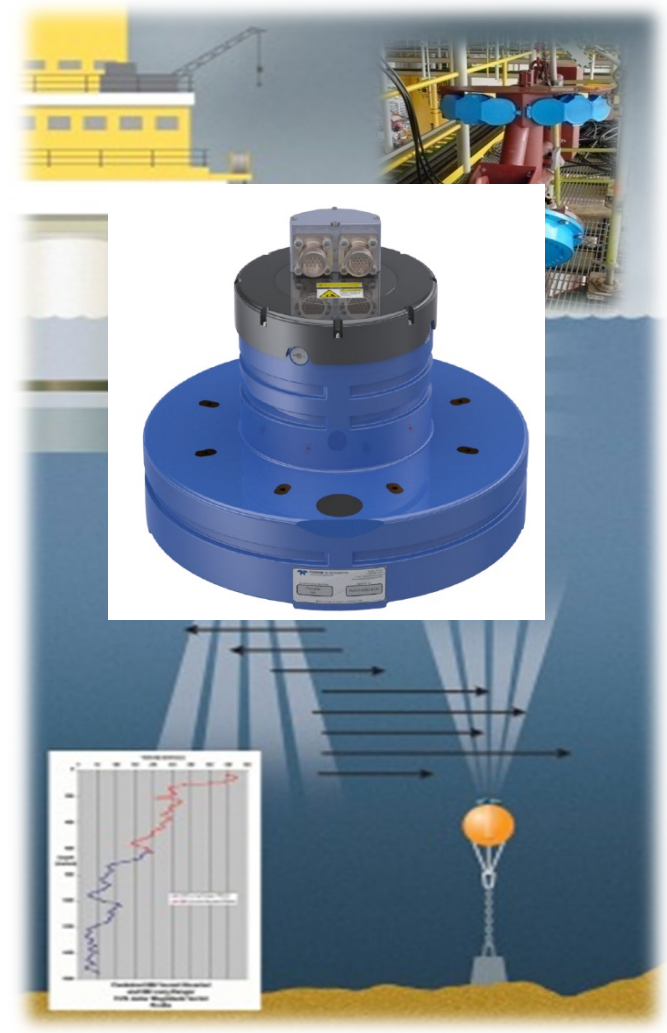
# Pinnacle ADCP Applications



**Oceanographic Research Vessels**



**Surface and Sub-Surface Moorings**



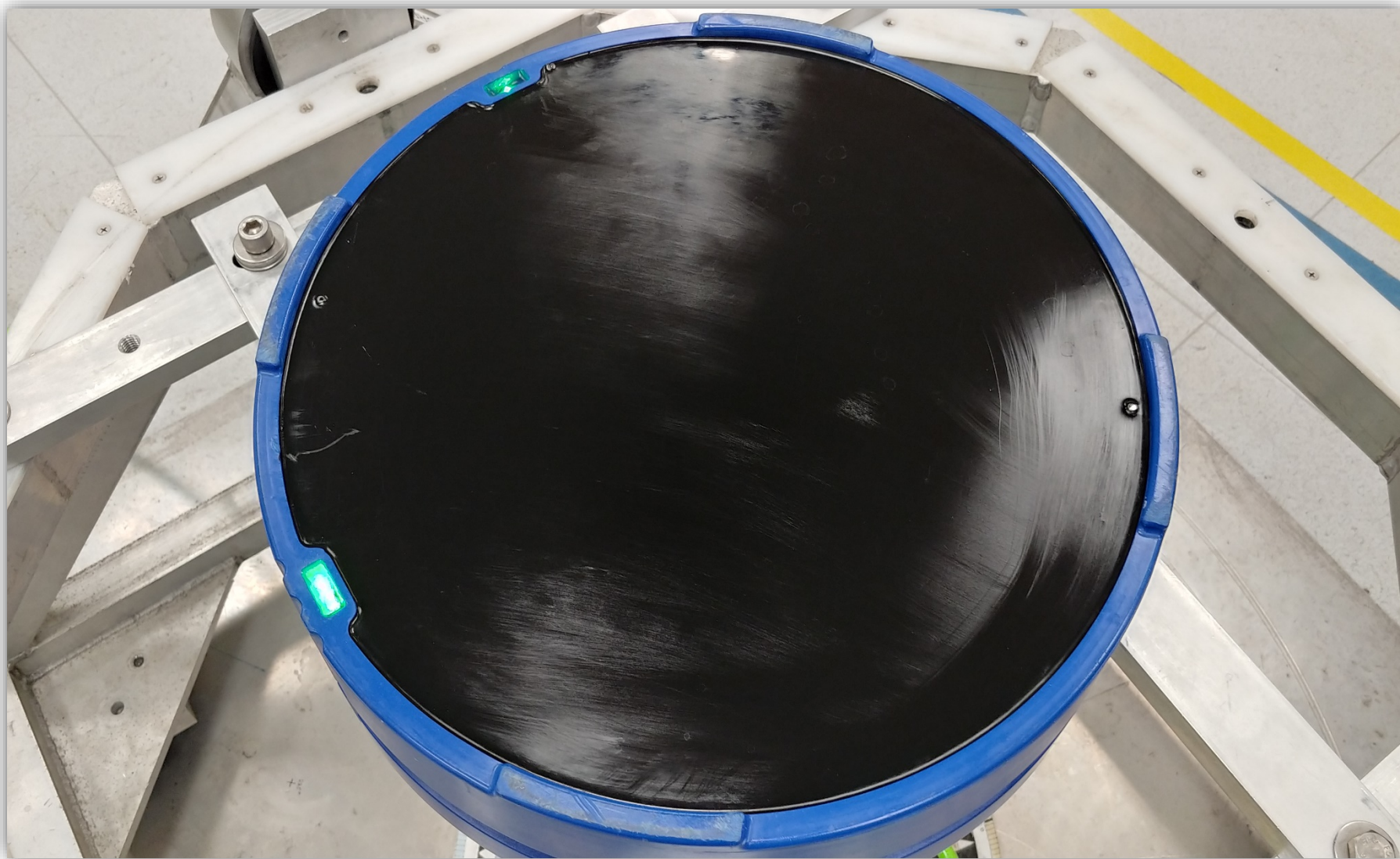
**Offshore Oil & Gas**

# Modular Design & Corrosion Resistant



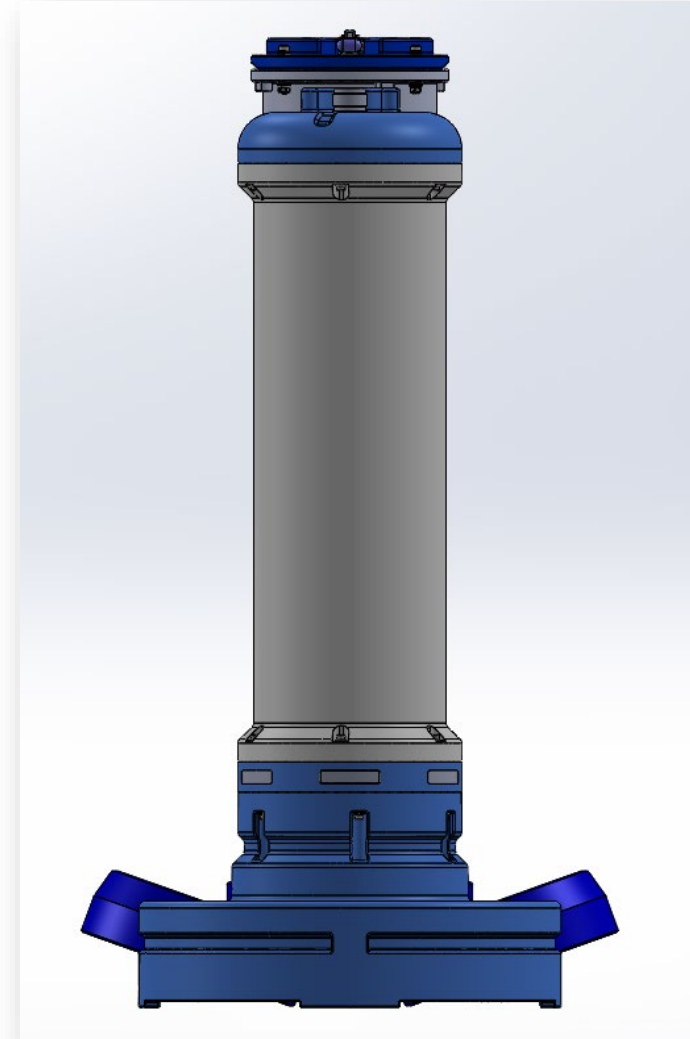
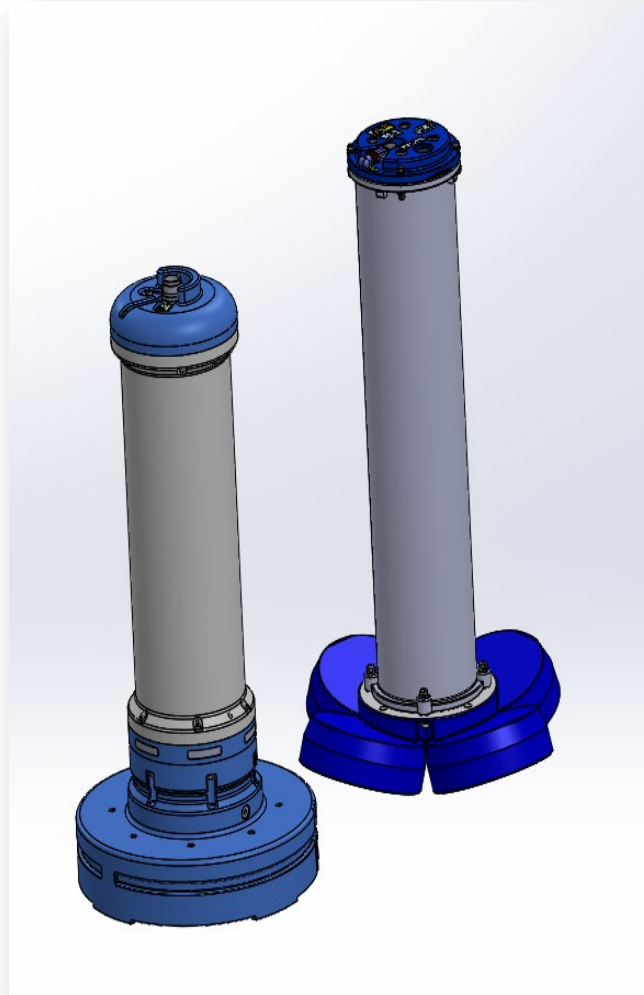


# LED Indicators

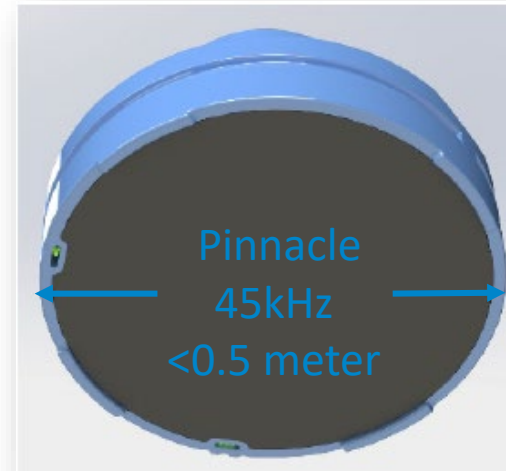
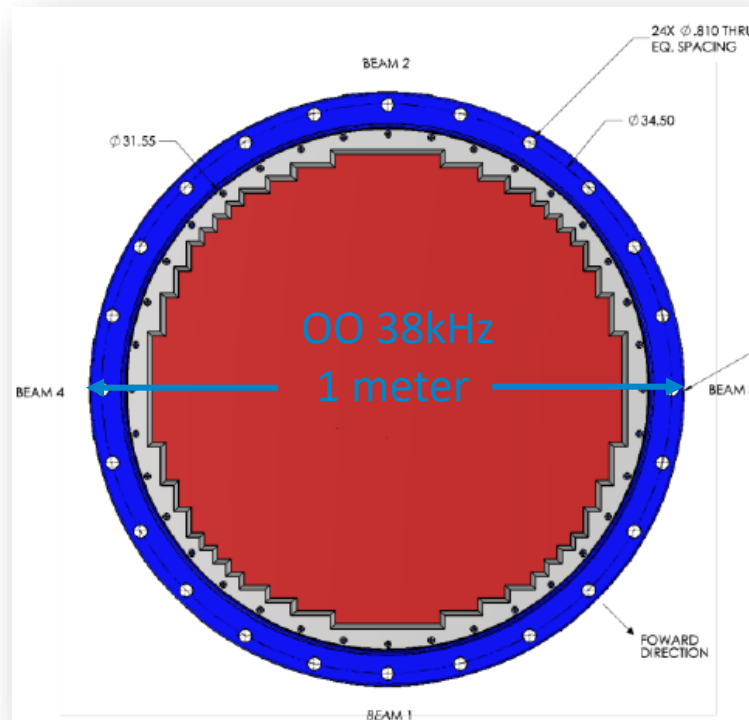


# Size Matters

About  
the same  
size as  
the Long  
Ranger  
but 40%  
more  
profiling  
range!



# Size Matters



Half the Diameter and 1000m  
of profiling!

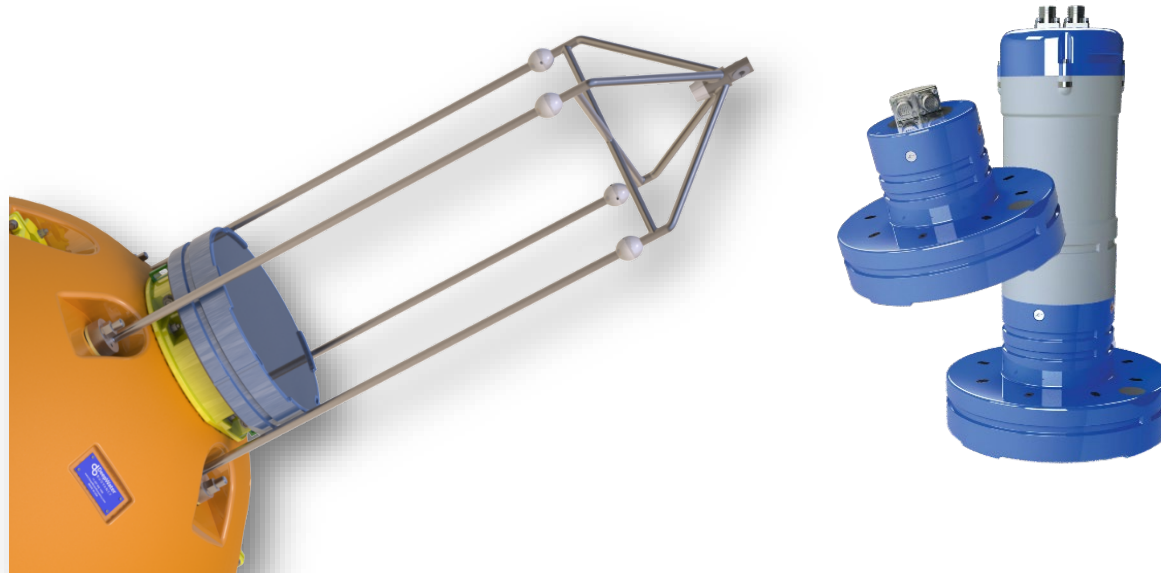


# Deep Water Buoyancy Float

- Custom clamp
- Custom frame
- Pinnacle lifting feature
- Buoy handling strap



**DeepWater®**  
BUOYANCY







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**BLUEVIEW MK2**  
*SIMON BARCHARD*

March 2020



# BlueView M-Series Mk2 Family



# BlueView M-Series Mk2

BlueView M-series Mk2– development program to:

- Ruggedize and Improving the Blueview M-series products
- Reducing variants and standardize

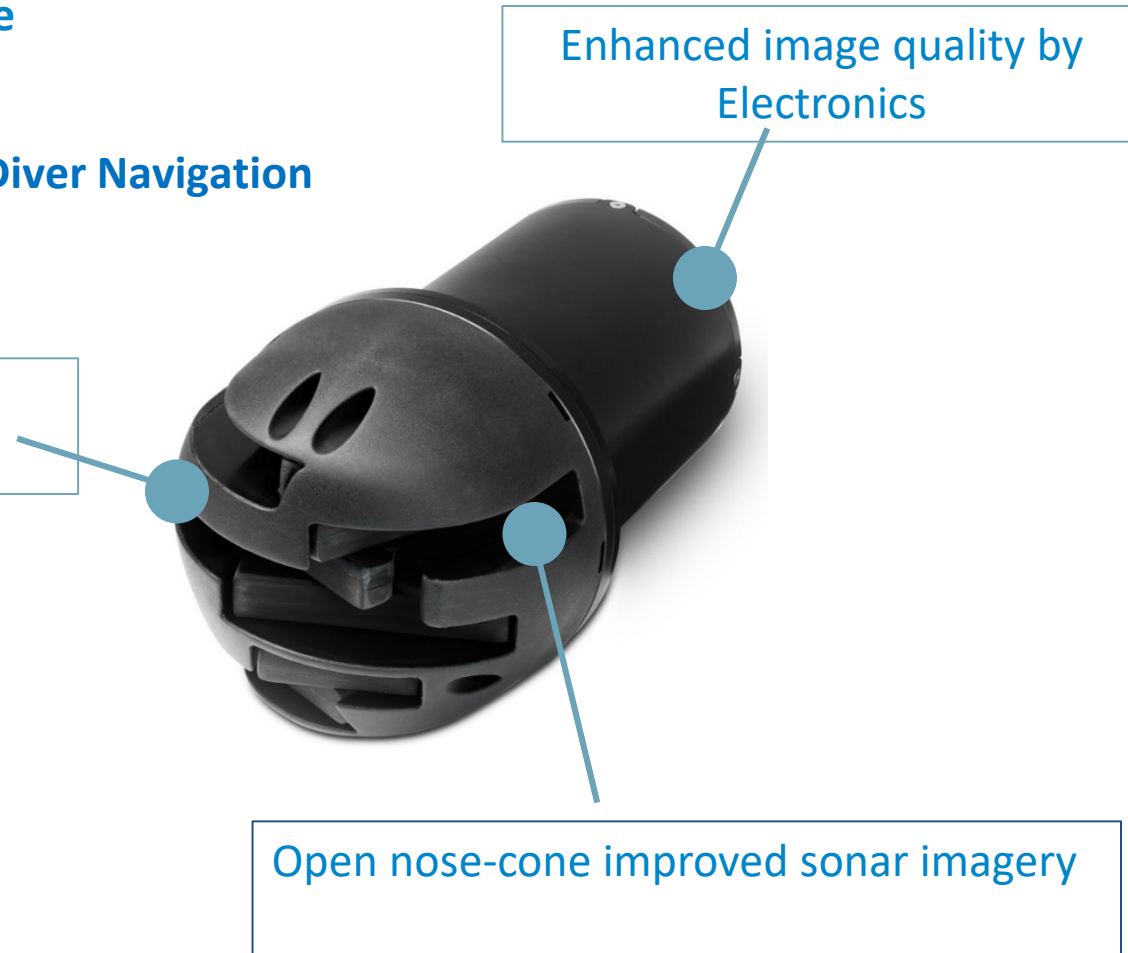
And

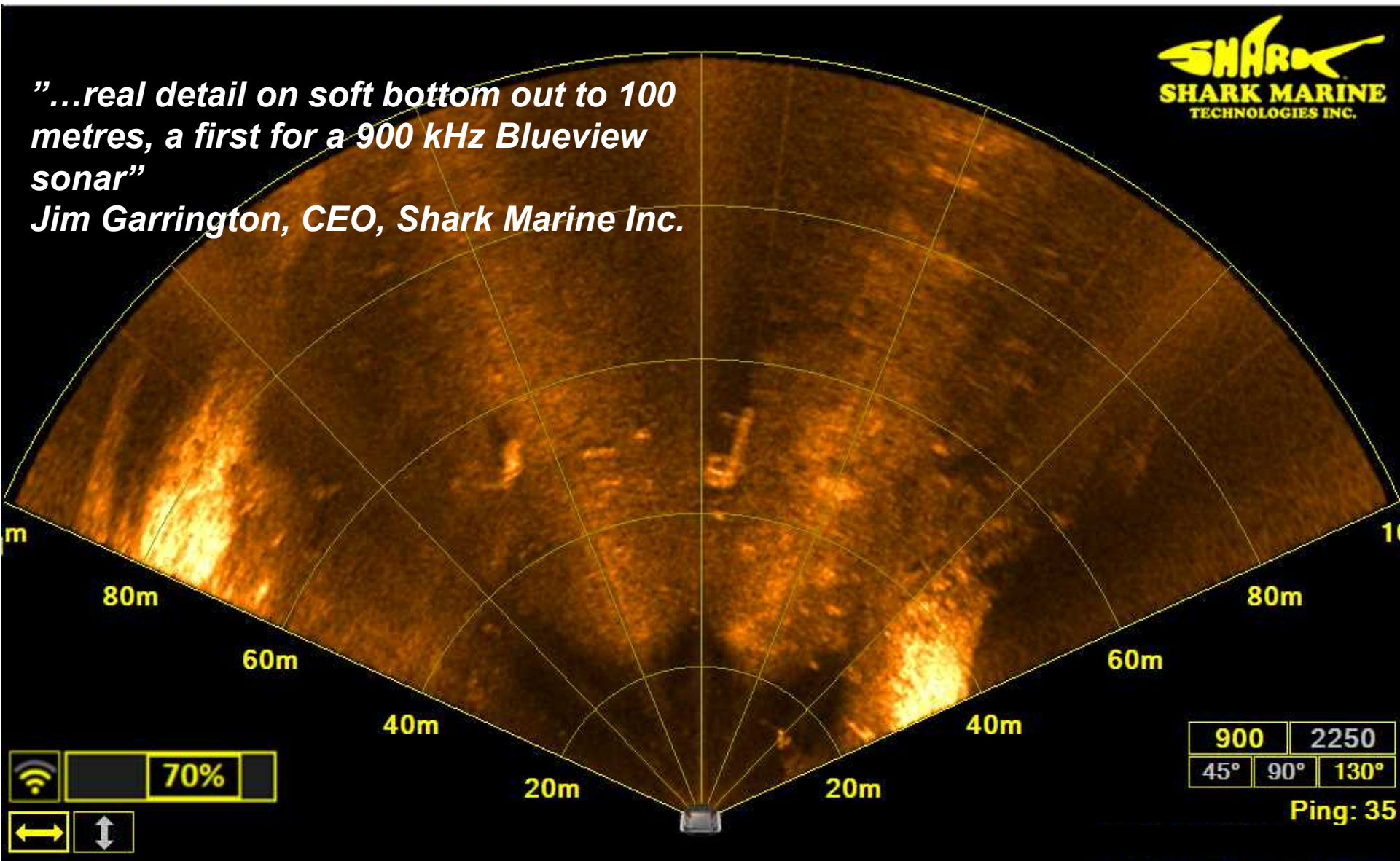
- New 130/45 Degree system for Diver Navigation

M900/2250kHz – 130/45 degree sector

## Benefits

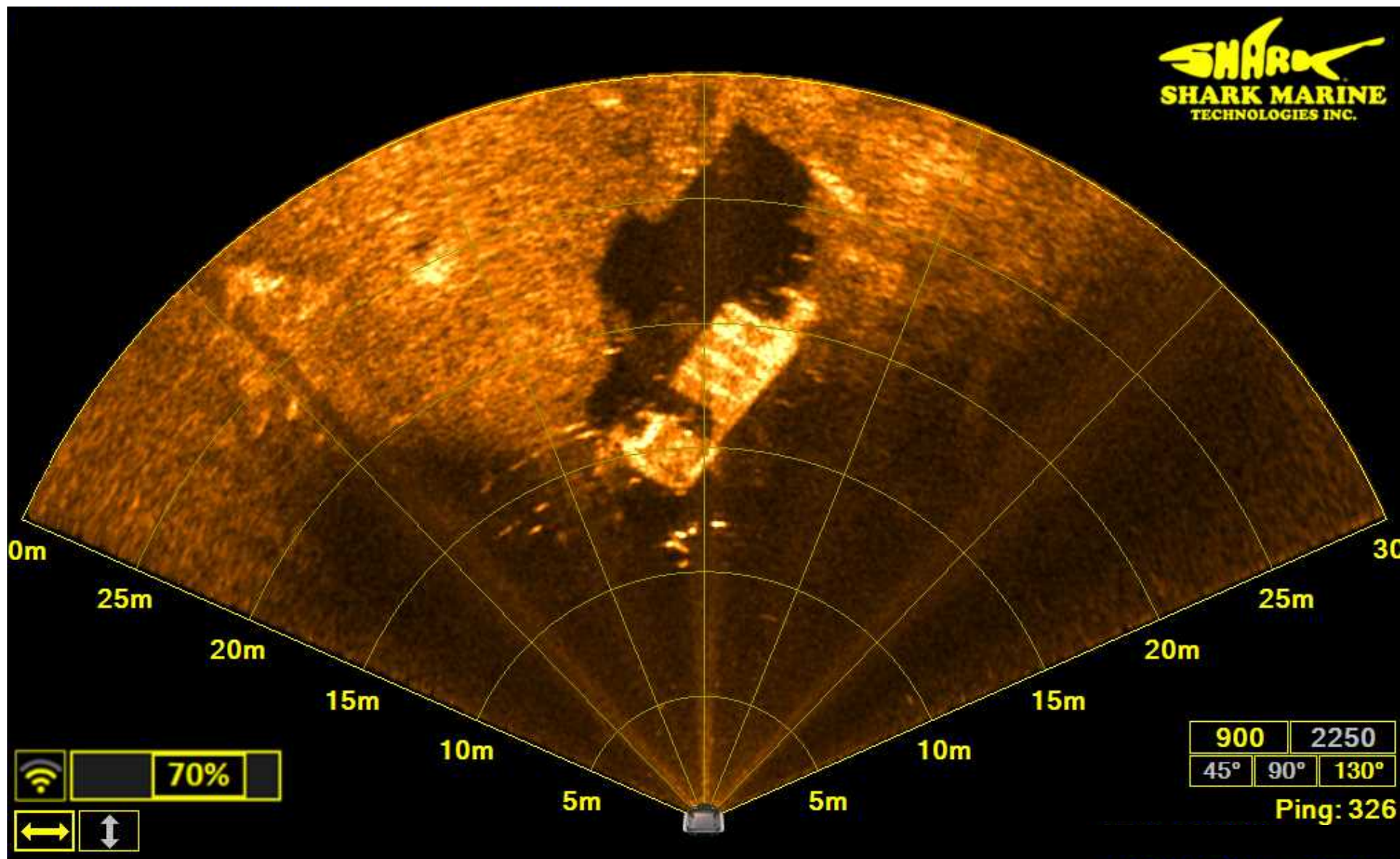
- Data Quality
- Product reliability
- Easy to interface / easy to use



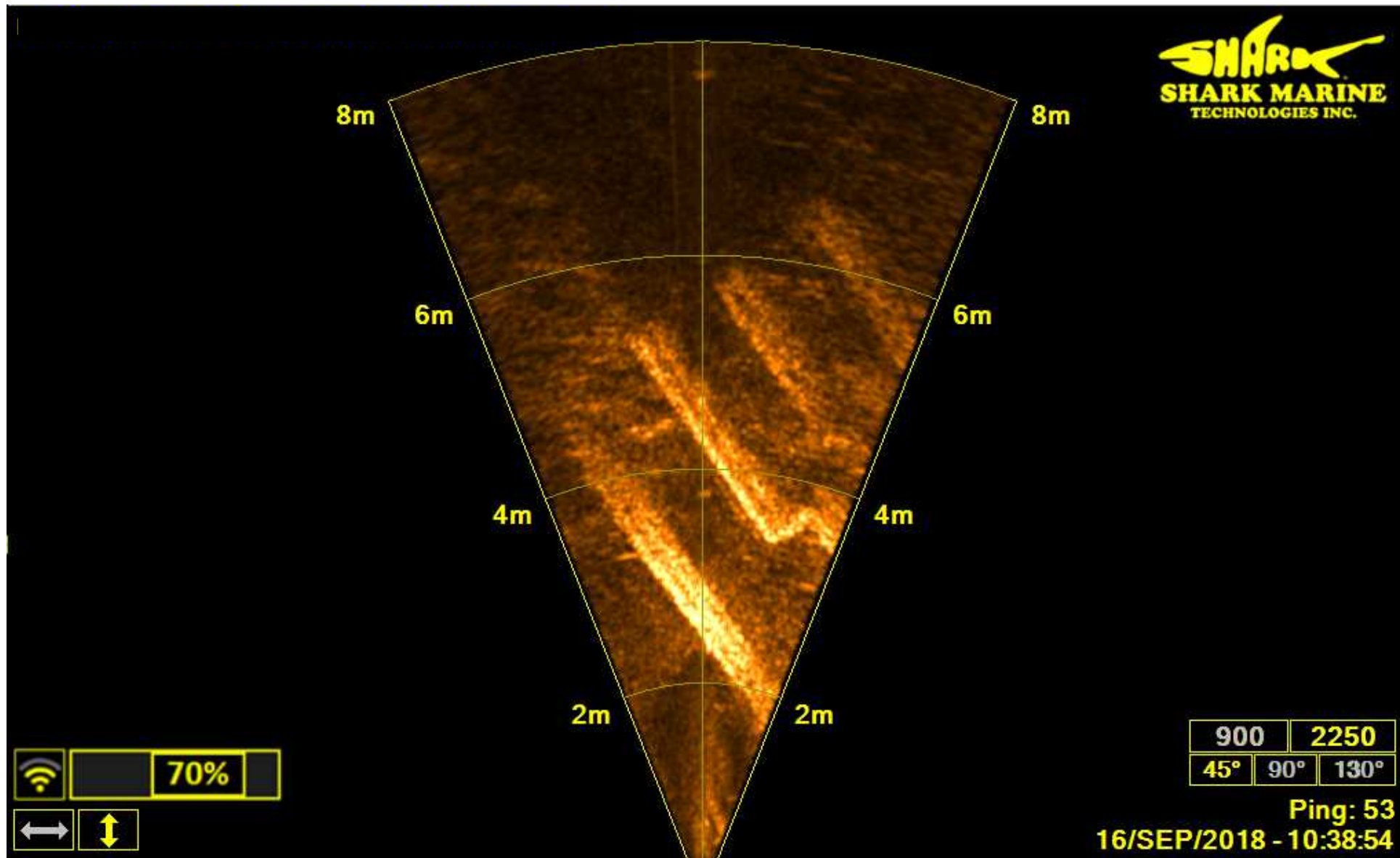


Channel with targets on bottom and shore on both sides of image





Boat on sea floor with fish around the front



Close up 2250 kHz image highlighting high resolution capability at close range



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# TELEDYNE MARINE

## V2.0 UPDATE FOR SEABAT T-SERIES

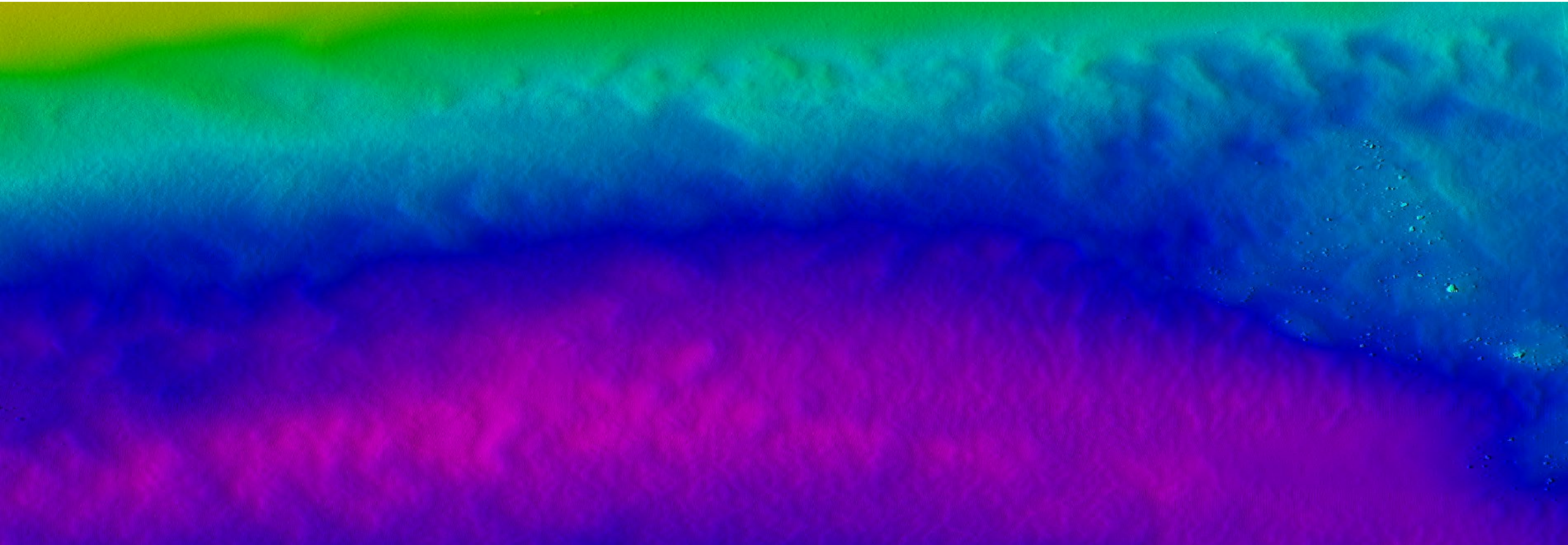
*UNI BULL*

March 2020



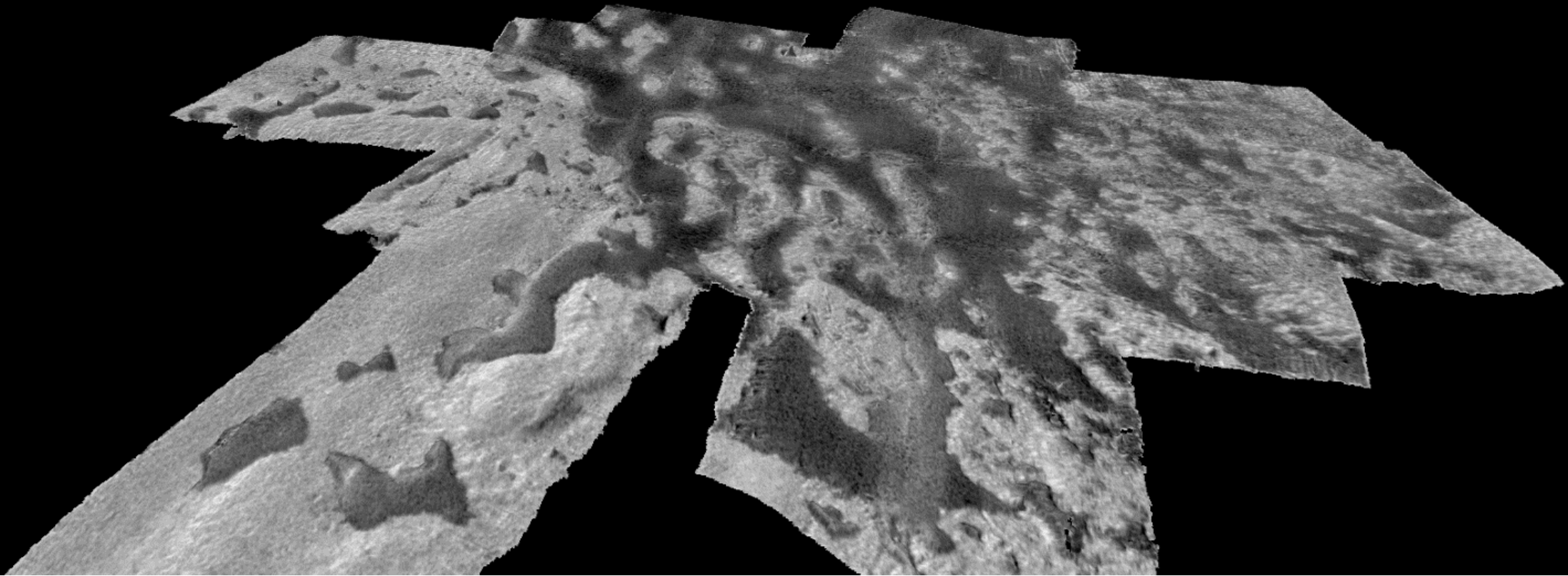


Double the data density  
Highest SeaBat sounding density ever  
Up to almost 3.700.000 soundings per minute!



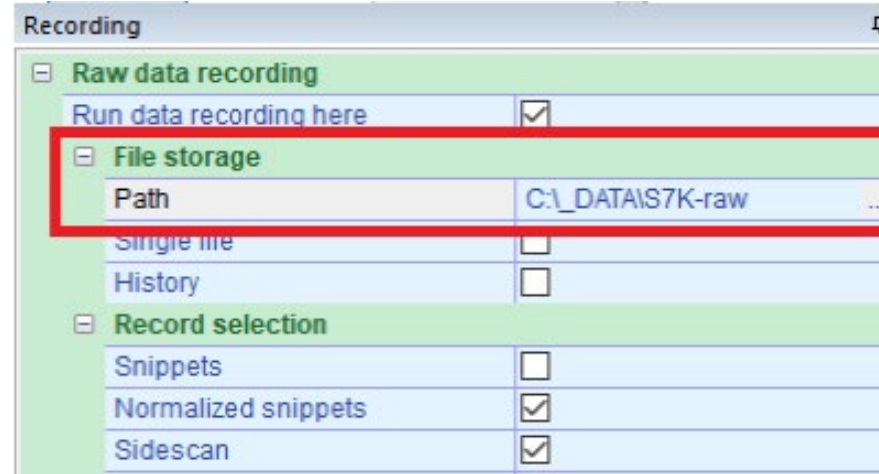


Real-time compensation for sonar specific characteristics  
Artefact-free backscatter out of the box  
True backscattering strength



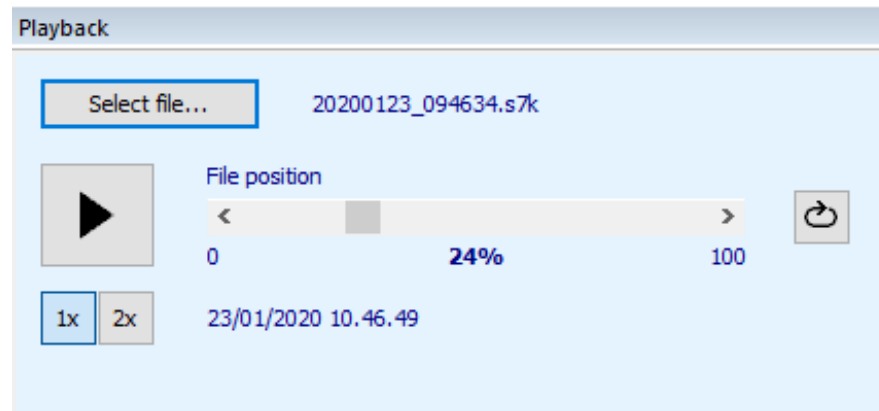
## Simplified raw s7k logging in Sonar User Interface

- Store directly to local drive
- Store to network locations

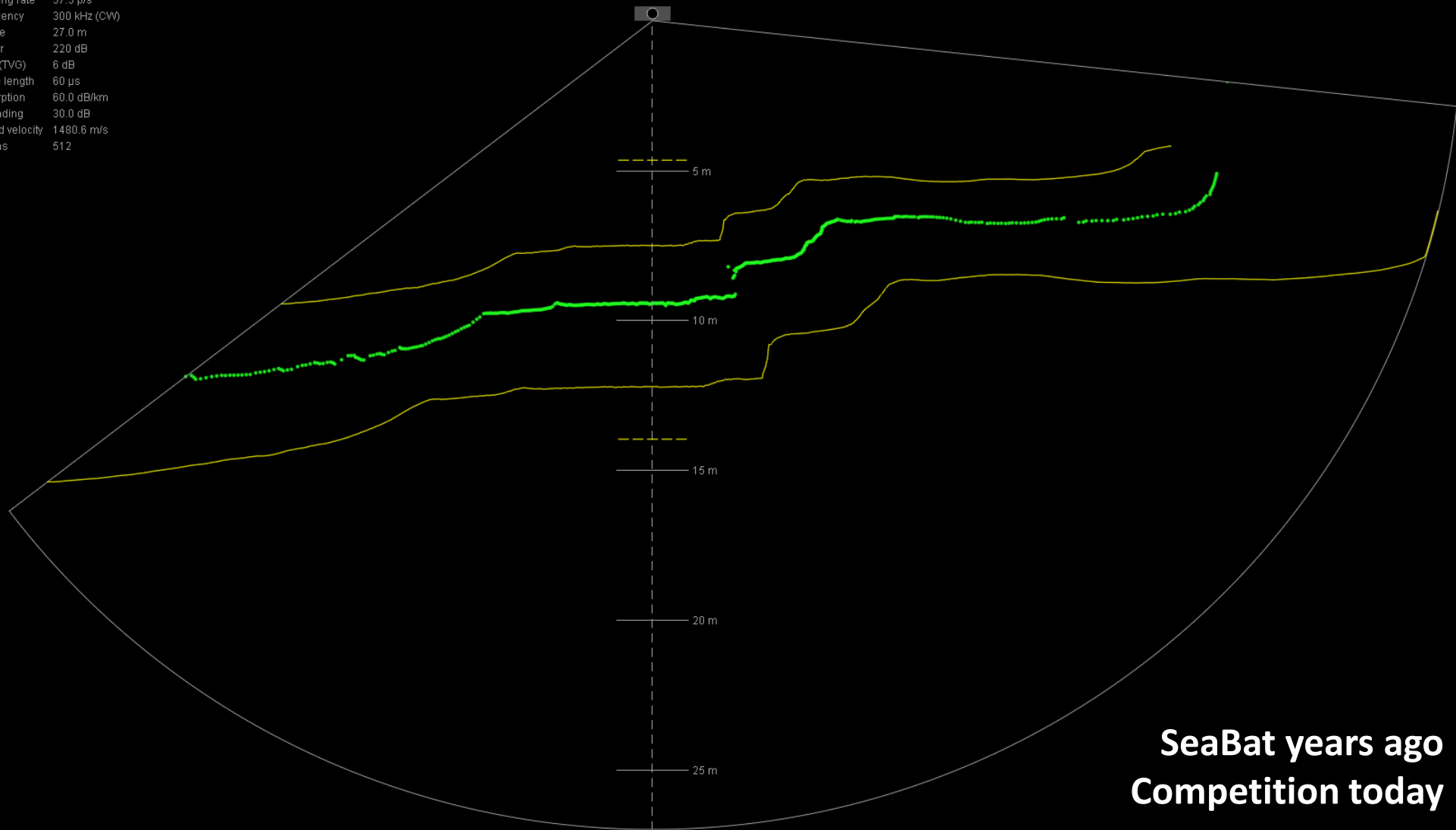


## New and easy playback of s7k-files in User Interface

- Drag'n'drop replay



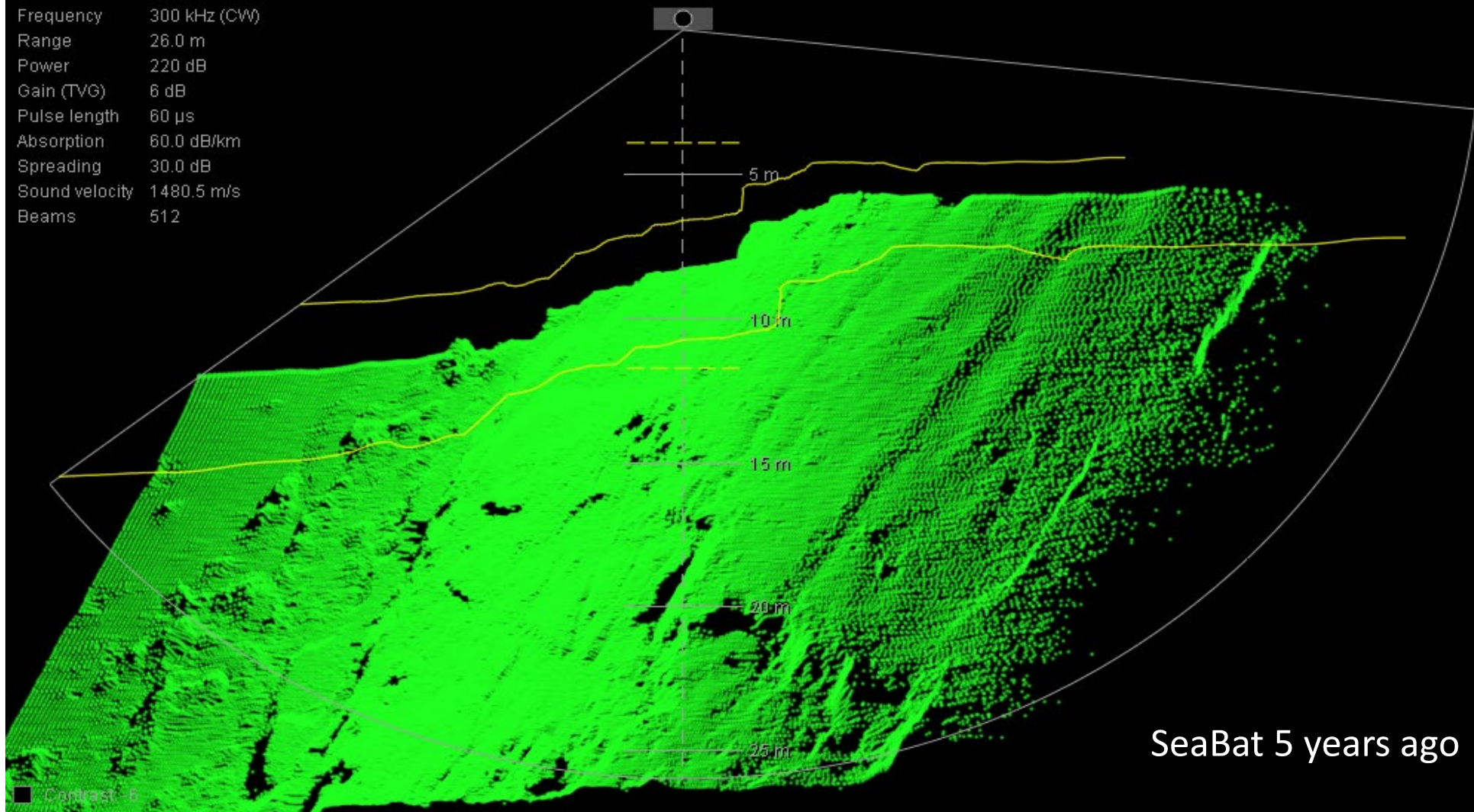
Ping number 1595977  
Act. ping rate 37.5 p/s  
Frequency 300 kHz (CW)  
Range 27.0 m  
Power 220 dB  
Gain (TVG) 6 dB  
Pulse length 60  $\mu$ s  
Absorption 60.0 dB/km  
Spreading 30.0 dB  
Sound velocity 1480.6 m/s  
Beams 512



**SeaBat years ago**  
**Competition today**

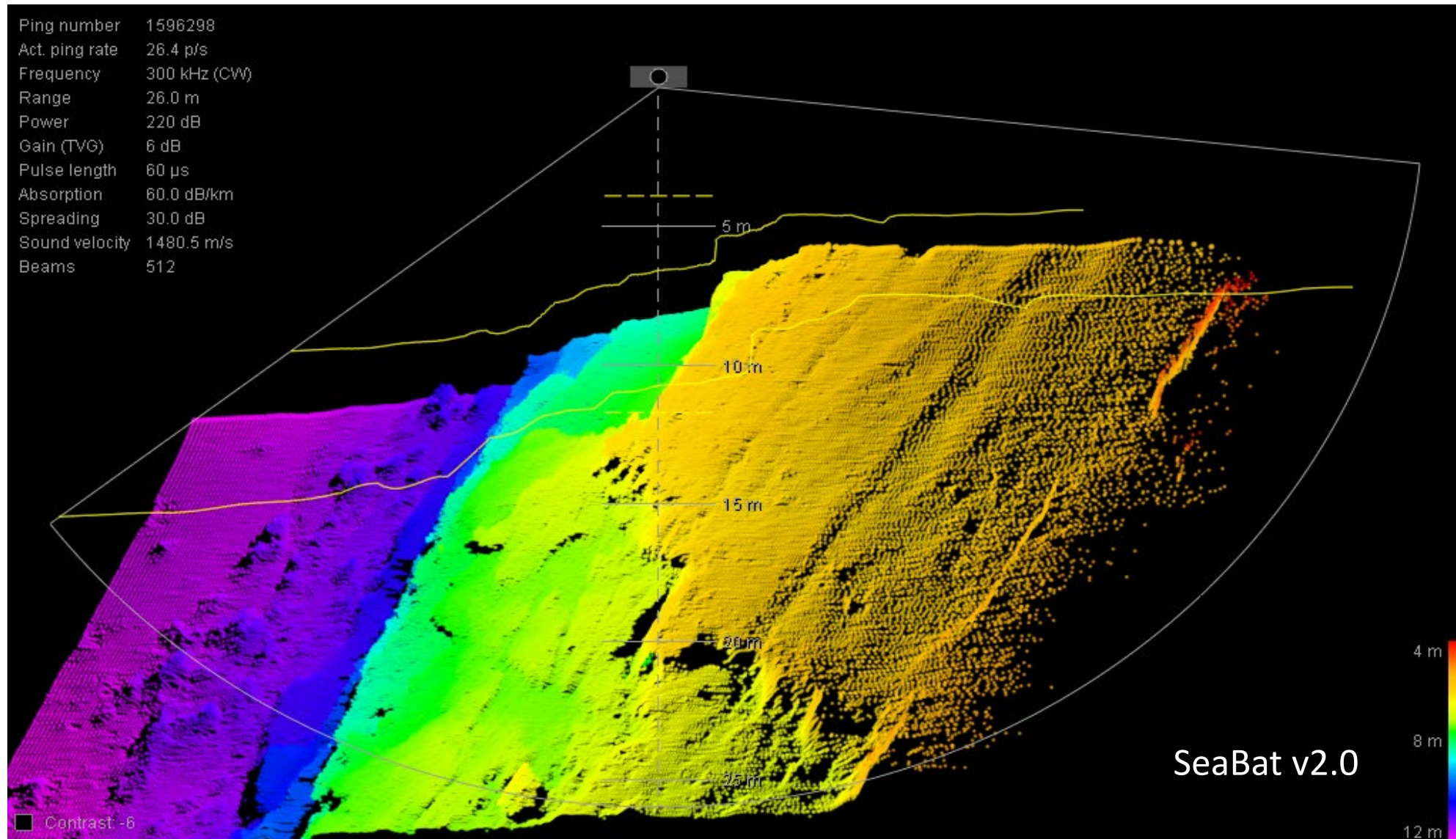
Contrast 18

Ping number 1596298  
Act. ping rate 26.4 p/s  
Frequency 300 kHz (CW)  
Range 26.0 m  
Power 220 dB  
Gain (TVG) 6 dB  
Pulse length 60  $\mu$ s  
Absorption 60.0 dB/km  
Spreading 30.0 dB  
Sound velocity 1480.5 m/s  
Beams 512





Ping number 1596298  
Act. ping rate 26.4 p/s  
Frequency 300 kHz (CW)  
Range 26.0 m  
Power 220 dB  
Gain (TVG) 6 dB  
Pulse length 60  $\mu$ s  
Absorption 60.0 dB/km  
Spreading 30.0 dB  
Sound velocity 1480.5 m/s  
Beams 512



[Marine-supportDK@Teledyne.com](mailto:Marine-supportDK@Teledyne.com)

[Marine-supportUS@Teledyne.com](mailto:Marine-supportUS@Teledyne.com)

**Ask for:**  
**v2.0 Update for SeaBat T-series**

**Provide:**  
**License-ID or sonar processor serial number**



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# TELEDYNE MARINE

## ULTRA COMPACT MODEM

*CARL MANCUSO*

March 2020



# Benthos Product Focus Areas



## Acoustic Modems

LF, MF, Band-C Frequency Bands  
500m, 2000m, 6000m Depth Ratings  
Different Transducer Options  
OEM Board Sets for System Integration



## R-Series Acoustic Transponding Releases

500m, 2000m, and 12000m Depth Ratings  
180 kg to over 20,000 kg load ratings



## Universal Top-Side & Release/lt Deck Boxes

Command, Control, Data, Power



## USBL Positioning Systems

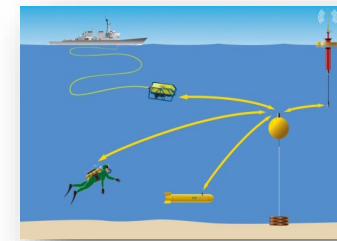
DAT – Directional Acoustic Transponder

Measures range, bearing, and elevation of an incoming acoustic signal

TrackIt Deck Box and Software

Compact & Ultra-Compact Transponders

Any Benthos Acoustic Modem or R-Series Release can also act as a subsea transponder





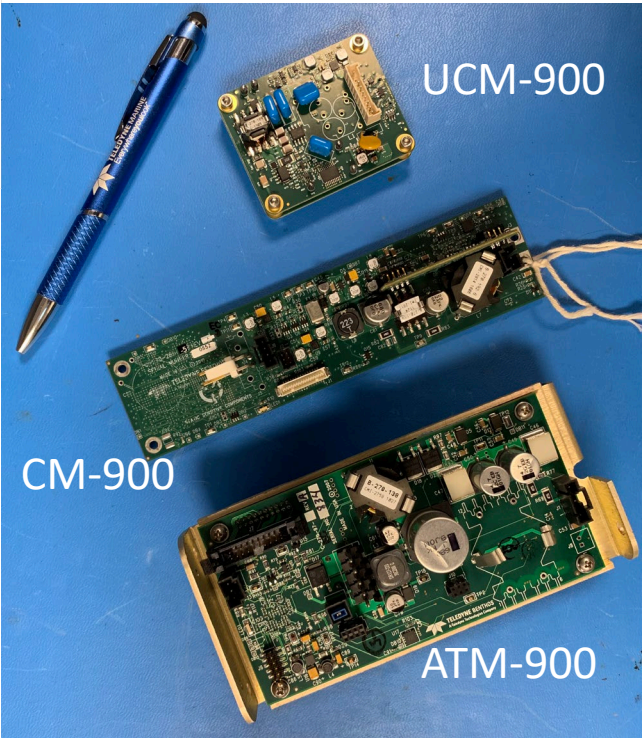
# USBL Positioning and Modem Communications



- Integrated USBL Transponders in Subsea Housings
- OEM Kits for integration into vehicles and other systems
- Low power consumption
- Janus Interoperability



Modem	Frequencies	Tx Power	Rx Active Pwr	Size (LxWxH inches)
UCM-900	WideBand-C	5+ Watts	360 mW	2.4 x 1.9 x 1.1
CM-900	LF, MF, Band-C	5 Watts	400 mW	6.50 x 1.63 x .94
ATM-900	LF, MF, Band-C	Up to 20 W	550 mW	5.64 x 2.78 x 1.83



# Upgrade Your Acoustic Modem/Release Topside to Include GNSS/NAV!

## Teledyne Benthos feature-rich UTS-9400 universal topside unit just got a lot more powerful!

Via our NEW 2.0 software/firmware upgrade option, users can now incorporate GNSS/NAV data into their acoustic modem/release deployment operations.

Save valuable time and money by surveying in precisely where your instruments are deployed for fast and easy detection and recovery. The new survey feature delivers:

- A highly intuitive and flexible GUI
- Real-time operation
- Ability to set destination and waypoints
- Self-contained system; no external PC required
- Ability to download data to a USB Drive
- GNSS/Nav data supports GPS, GLONASS, BeiDou and Galileo

The 2.0 upgrade also includes an acoustic snapshot to help diagnose and overcome your deployment environment - incredibly helpful when operating in noisy or other challenging marine environments.



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# TELEDYNE MARINE NAV-UI SENSOR INTEGRATION SOFTWARE

*MATT HULL*

March 2020



# Overview

- New software package from Teledyne Marine
- Single access point for Teledyne Marine sensors
- Will be shipped with all Tasman/Pathfinder systems

## Start Here



Acquire



Replay



Post-Process

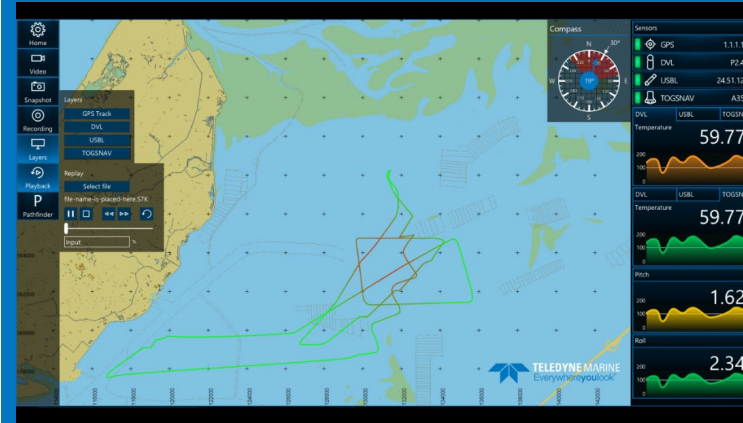


*Focus on ease of use  
and improved accessibility*

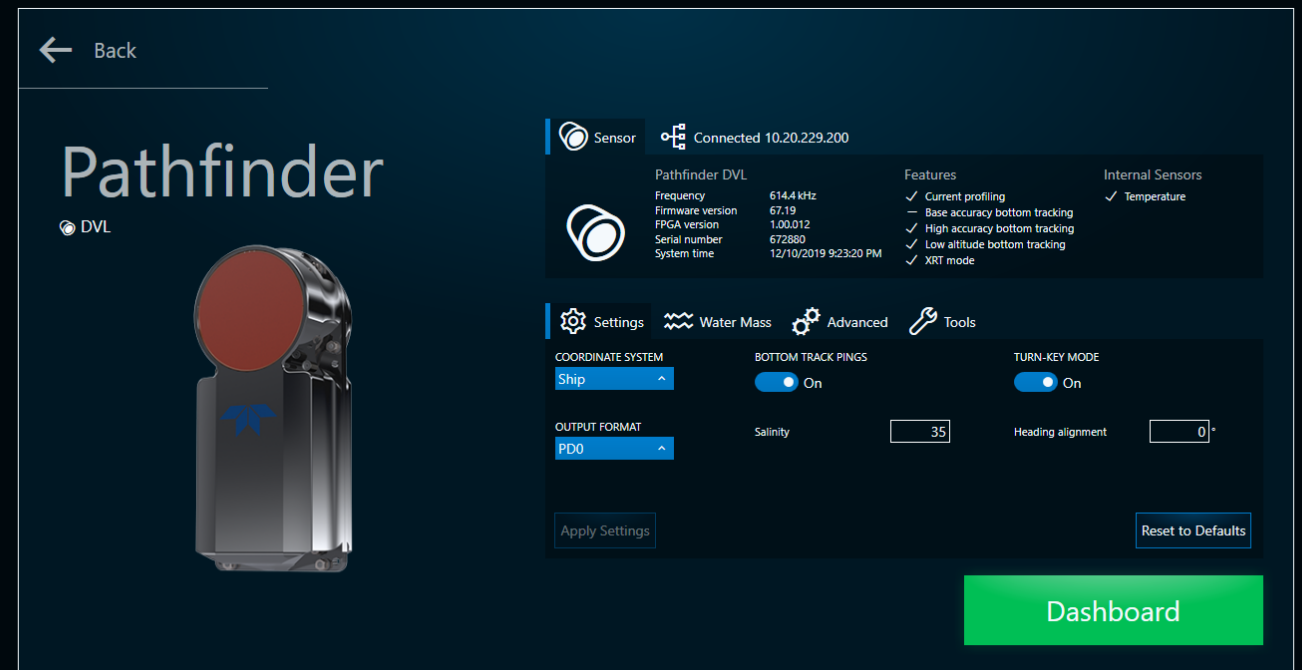


# Core features

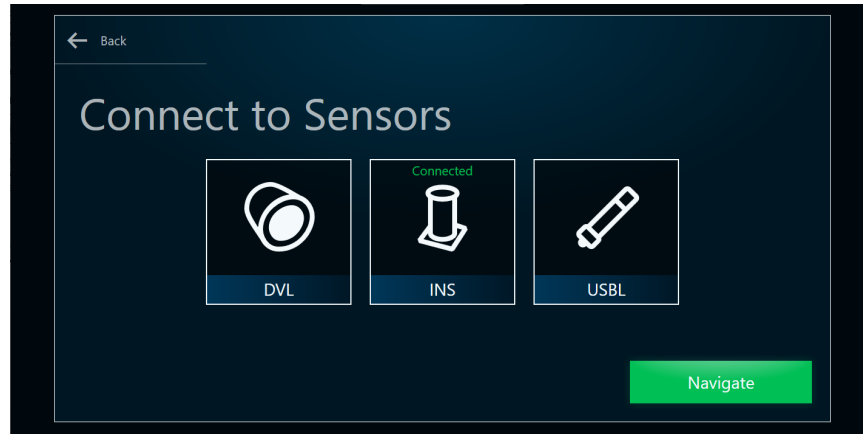
- Real-time data acquisition
- Play-back of recorded data files
- INS Post-Processing add-on feature



*Navigation and charting displays for all sensors*

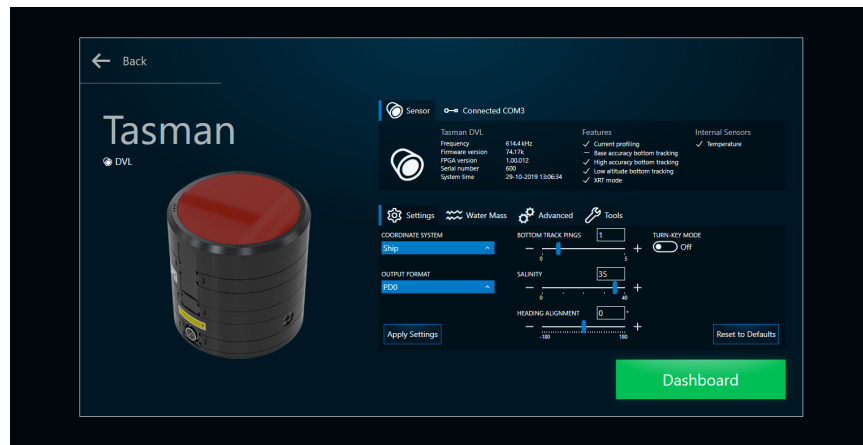


# Sensor integration



## *Management*

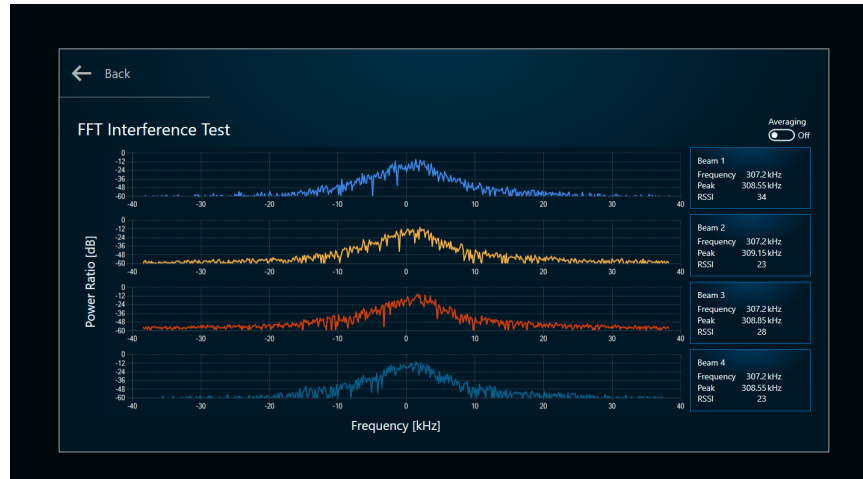
Supports connections to DVL, USBL, INS and fully integrated INS/DVL systems



## *Setup*

Configure all aspects of sensors from standard settings through to advanced settings to fine tune your system

# Sensor tools



## *Diagnostics and Tools*

Includes system tests for sensors, firmware updates and feature upgrades



## *Status and Calibration*

Provides easy access to system status and tools designed to simplify the calibration process



# For More Information

For more information regarding this presentation or new product development, please contact us at:

[info@TeledyneMarine.com](mailto:info@TeledyneMarine.com)

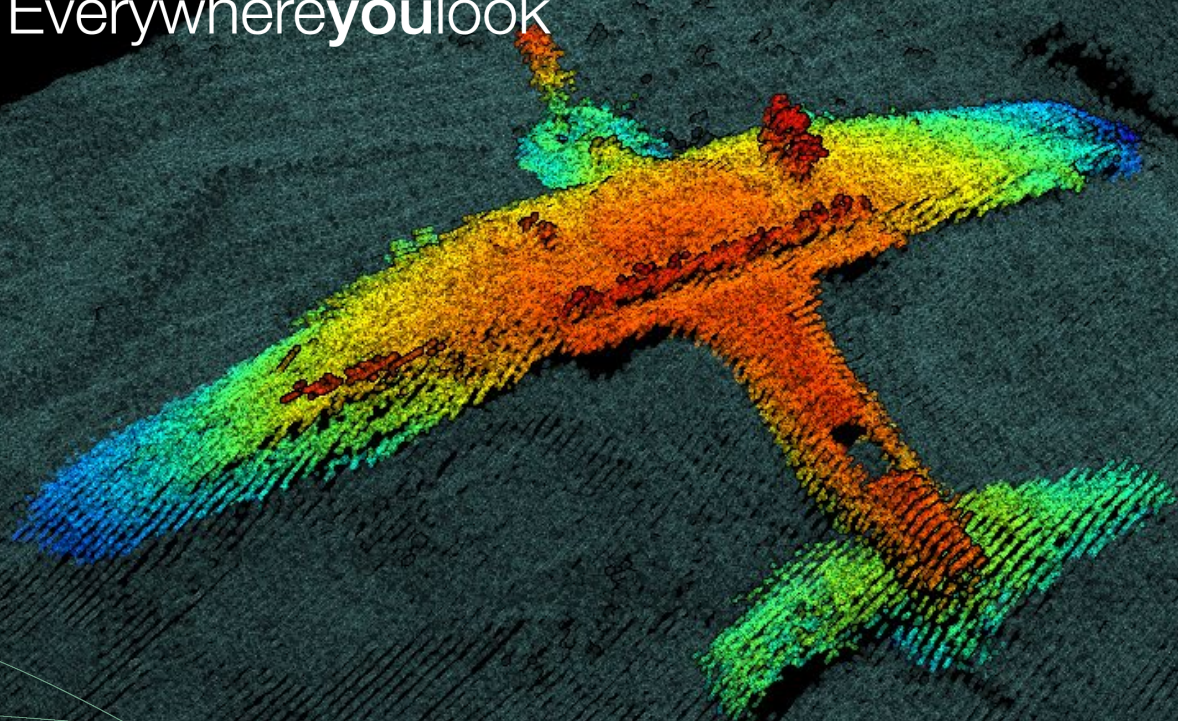
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