The ATLAS HYDROSWEEP DS facilitates new fields of applications for hydrographic data. With the system, across ocean pre-surveys for cable layers, detailed scientific investigations, surveillance at continental slopes, rifts and ridges for disaster management or the search for indications of natural resources can be performed at a formerly unrivalled rate of effort with an unmatched data quality.

We introduce frequency modulated (chirped) pulses for an improved signal-to-noise ratio. The multi ping capability multiplies along-track seafloor coverage, even at higher survey speeds.

Besides these advantages the customer benefits from lower investments for the full ocean depth multi beam echosounder HYDROSWEEP DS. Compared to other systems, the acoustic transducer array is approximately 30% smaller. System installation expenses are lower, the required space for the system on the ship is smaller and the installation can be performed more flexible and more secure within a reduced dock time.

The rugged product attributes of the HYDROSWEEP DS have been demonstrated on a large number of survey operations. Exposed to challenging conditions e.g. in arctic ice regions, the transducers showed outstanding robustness and delivered stable and reliable results.
**OPERATING FREQUENCY**
15.5 kHz

**FULL OCEAN DEPTH RANGE**
10 m – 11 000 m

**TRANSMISSION BEAM RESOLUTION**
2° or 1°, along-ship

**RECEPTION BEAM RESOLUTION**
2° or 1°, with 141 classical hard beams, across-ship
< 0.5°, with 345 refined HOB-beams

**BATHYMETRIC SWATH WIDTH**
Up to 5.5 times water depth

**SIDE SCAN SWATH WIDTH**
Up to 7.5 times water depth

**MAXIMUM PING RATE**
25 Hz

**MULTI PING OPERATION (OPTION)**
Two simultaneous pings

**MOTION STABILISATION**
Roll, pitch and yaw

**FULL MOTION CORRECTION**
Roll, pitch, yaw and heave

**RECEPTION BEAM SPACING MODES**
Equal footprint or equal angle (user selectable)

**PULSE CHARACTERISTICS**
**Pulse lengths:** 0.5 – 30 ms (depending on the water depth and the pulse modulation)
**Pulse types:** Continuous wave (CW) pulses and chirped pulses with linear frequency shift (user selectable)

**Pulse shapes:** Rectangular, triangular, Hann, Hamming, Gaussian and user-defined pulse shapes (user selectable)

**MAXIMUM TRANSMISSION SOURCE LEVEL**
Up to 239 dB (for approx. 2° along-ship hard beam width)
Up to 245 dB (for approx. 1° along-ship hard beam width)

**RESOLUTION**
Max. range resolution (amplitude and phase): 6.1 cm
Max. output sample rate (amplitude and phase): 12.2 kHz

**ACCURACY**
0.5 m ± 0.2% of depth
Across a swath of 4 times the water depth

**SIDE SCAN AND BACKSCATTER**
> 10 000 values per swath

**OBJECT DETECTION CAPABILITY**
Exceeds IHO SP44 requirements

**SUB BOTTOM PROFILING (OPTION)**
The ATLAS HYDROSWEEP DS can be operated as a parametric sub bottom profiler with user-definable secondary frequencies between 3 kHz and 6 kHz

**C-MEAN DETERMINATION**
Patented method for the automatic determination of the mean water sound velocity, based upon linear regression