Sams 50 Deep Tow

Synthetic Aperture Mapping Sonar for deep water (6,000 m)

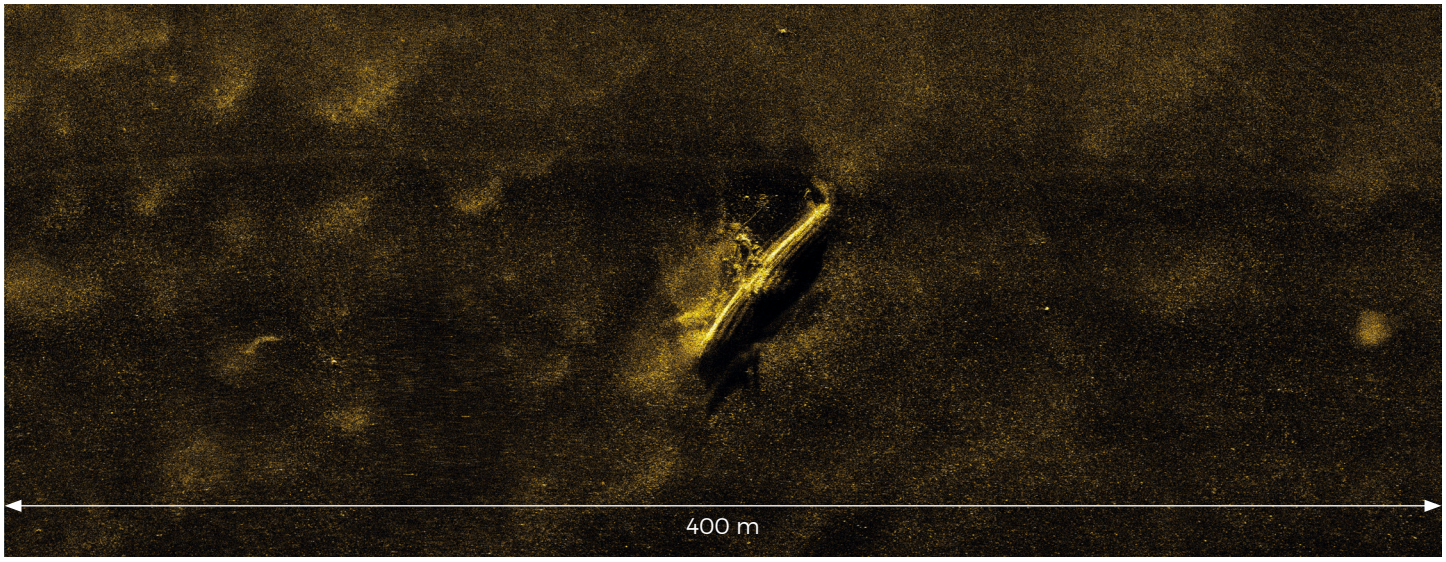
Sams 50 Deep Tow is a high-productivity sonar mapping system providing 1.8 km full swath and achieving 8 km²/h of real-time pixel georeferenced images of the seafloor. Through its unique Delph SAS processing technique, combined with ultimate resolution, it expands the capabilities of conventional imaging Side Scan Sonar.

Operational conditions

- Offers full swath of the seabed mapping in real-time and high resolution (Synthetic Aperture Sonar and Gapfiller)
- Provides real-time high-quality maps
- Allows saving time during survey and post-processing
- Builds in sonar motion compensation
- Multi-sensors platform : echosounder, sub-bottom profiler, magnetometer, pinger locator
- Running by Delph Geophysical software from acquisition to post-processing
- OEM version available

Main applications

- EEZ Mapping, Continental shelf extension, Marine Boundaries Delimitations
- Law of the Sea
- Wreck Research
- Debris survey
- Survey
- Cable Route Survey
- Deep-sea mining
- Marine Renewable Energy



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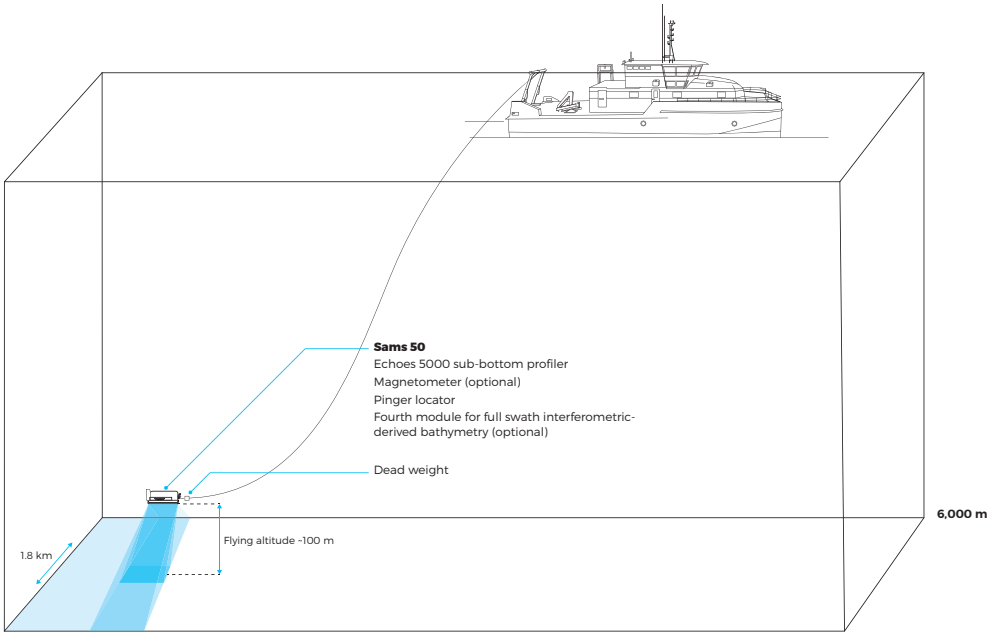
2020-12-DS-Sams50DT

TEHCNICAL SPECIFICATIONS & OPERATIONAL CONDITIONS

Technical specifications

	Sams 50 Deep Tow
SSS Frequency	55 kHz
Bandwidth	15 kHz
Full swath	Up to 1.8 km
GapFiller	3rd-part backscattering echosounder
Depth	Up to 6,000 m
Along-track resolution	40 cm constant resolution in optimal condition
Across-track resolution	5 cm
Max Tow Speed	6 knots
Navigation & Positioning	USBL+INS+DVL+pressure sensor+SVP
Other sensors	Magnetometer, Sub-bottom profiler Echoes 5000, Gap filler
Dimensions (l x w x h)	3.3 m x 1 m x 1.5 m
Weight in air/water	1,300 kg/neutral
Electrical power supply Fish without//with 10km cable	350 VDC / 400 W // 600 VDC / 1,200 W
AUV Kit	Yes

Sams 50 Deep Tow as a multi-sensor platform



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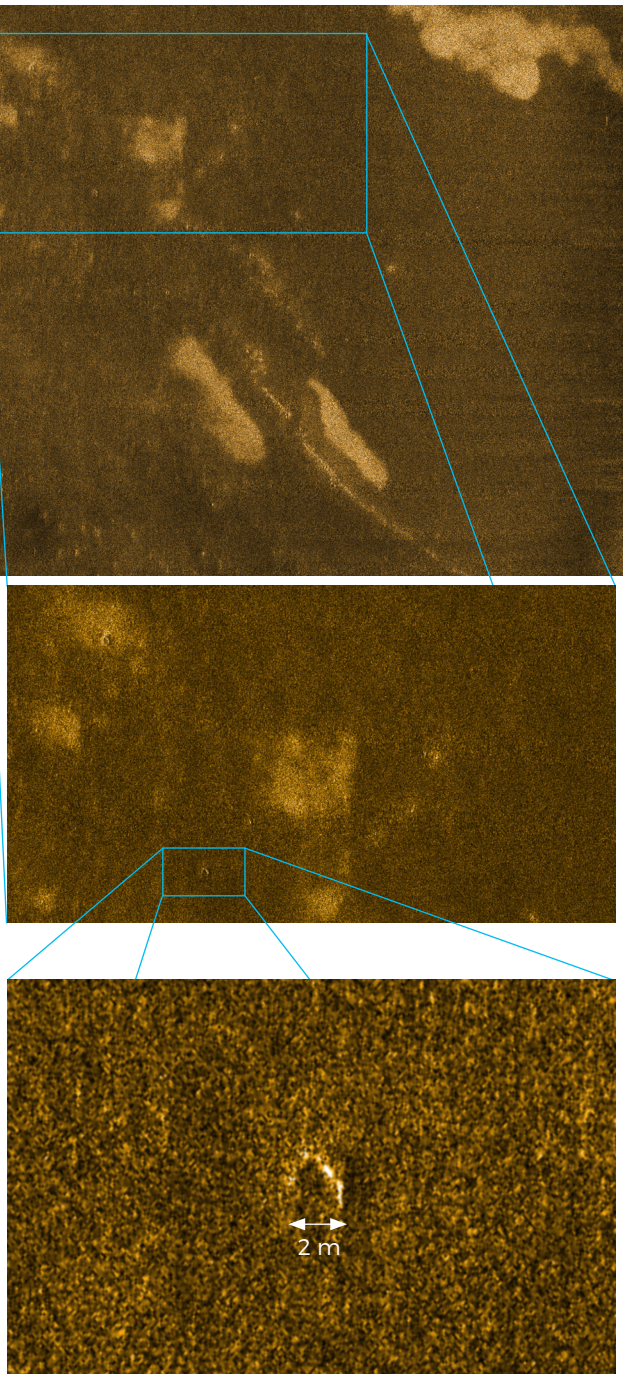
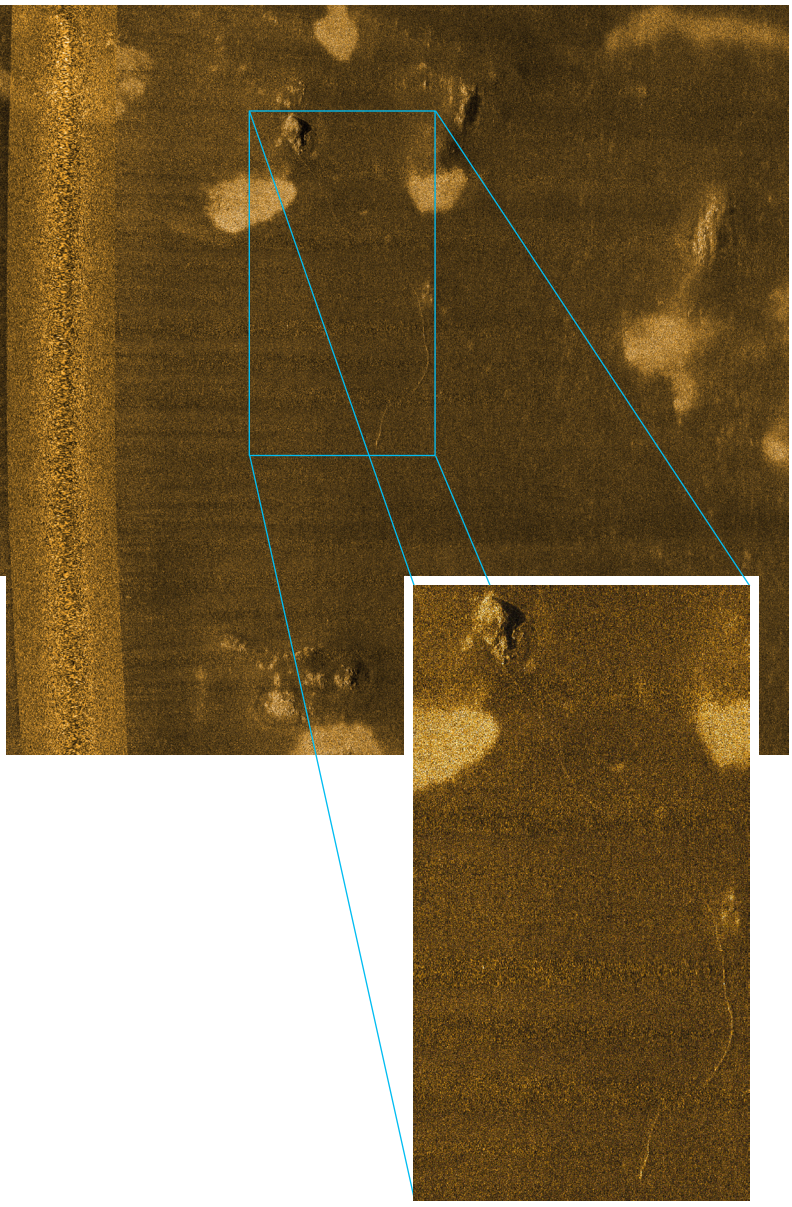
HIGH-QUALITY DATA GUARANTEED BY GEOREFERENCING

Sams drastically improves the range-resolution ratio of the produced images compared to traditional deep sea sonar. Images produced by Sams are generated and geo-referenced in real time thanks to the integrated iXblue inertial-acoustic navigation system Phins coupled with the medium-range Gaps (or long-range Posidonia 2) acoustic positioning. Sams allows very high productivity survey by improving the coverage rate per hour with constant high resolution on the full swath.



Undistorted image of a high-reflectivity object at the end of the swath



Anchor and chain laid on seafloor

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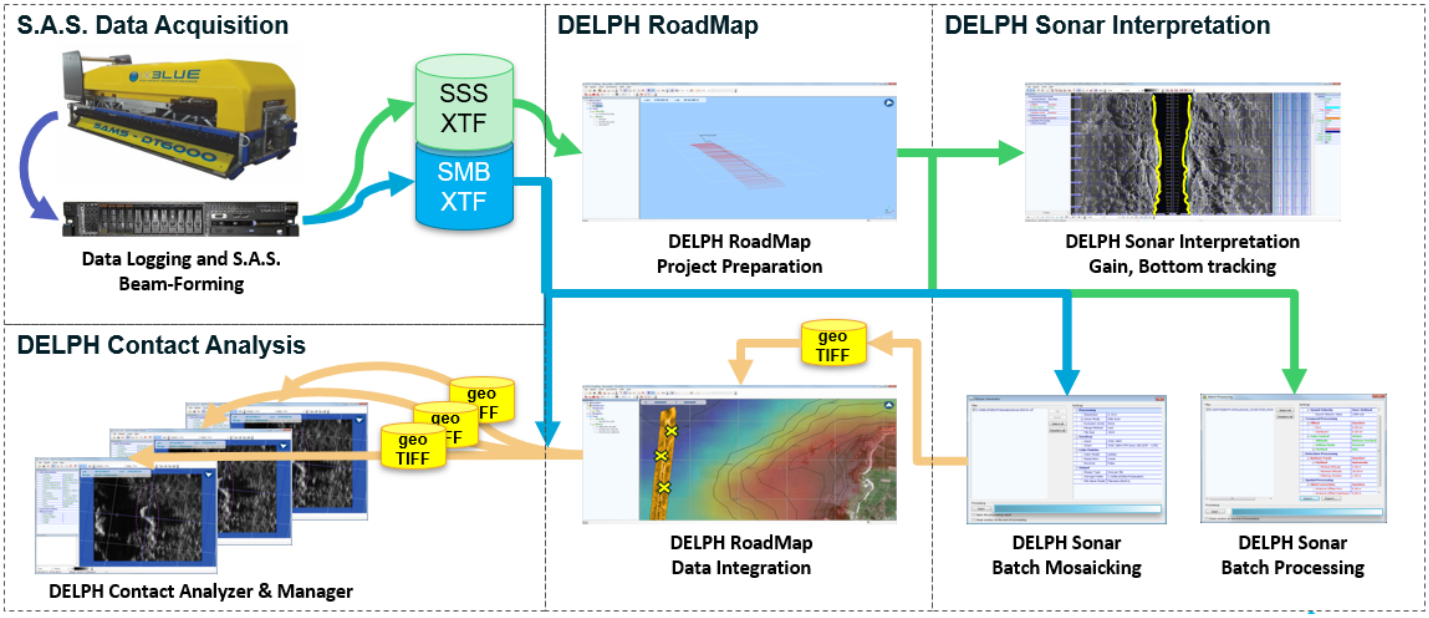
DELPH SAS: OPTIMAL POSITIONING FOR HIGH-QUALITY SEAFLOOR IMAGING

Delph SAS streamlines synthetic aperture sonar processing within the industry leading Delph Sonar Interpretation software. Advanced side-scan sonar processing, mapping and analysis now share common tools with regular side-scan sonars and benefit from Delph optimized workflow.



Real-time imagery positioning

- Real-time absolute positioning accuracy
- Full-resolution INS-based navigation and motion compensation
- Real-time USBL data fusion (optional)
- Micro-navigation computation
- Native production of standard XTF records and GeoTIFF mosaics

Full image derived from long range capability

- Robust SAS processing against sensor motion
- Natural 100% across and along-track coverage at any speed
- Co-registered gap-filler, sub-bottom profiler and bathymetry (option)
- SAS multi-channel beam-forming
- Spatial multi-ping integration
- User choice between image quality (classification) and resolution (detection) at any desired resolution.
- Optimized multi-core parallel processing

Benefits from Delph Sonar Interpretation software

- Native production of standard XTF records and GeoTIFF mosaics
- Target analysis and databasing tools
- Manual and automatic seabed classification
- Batch data processing
- Seamless integration with conventional side-scan sonar data
- 3D Multi-Sensor cartographic visualization in Delph RoadMap
- Multi-Sensor integration with sub-bottom profiler, magnetometer, bathymetry and any geo-referenced dataset

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