

SeapiX

Volumetric 3D sonar
for Fishery & Research

A classification system for the marine ecosystem
for biomass, fish and shoal dynamics. Combined
with seafloor classification and water column analytics.



Research and
monitoring



Fishery

BENEFITS

- Ecological and sea floor classification and bathymetry
- Large volume live view with high resolution active target tracking
- Long range (400m) and High resolution (7.5 cm)
- Real-Time data
- Plug & Play solution
- Motion compensated with embedded inertial measurement unit

FEATURES

- Volumetric 3D sonar
- Dual Steerable Multibeam Echo-Sounder (DS-MBES)
- Species and habitat classification
- Underwater biomass 3D vision / imagery

Now, a sonar for biomass classification

Collected biomass data by SeapiX is processed by statistical algorithms. The geographical quantitative assessment of the biomass population is transcribed on a geo-referenced 2D and volumetric 3D map.

GBA (Grouped Bee Algorithm) produce bespoke acoustic signatures and quality metrics for each fish and suspended particle in the water column. This ensures that real-time classification of the biomass is achieved. Once identified and calibrated, the GBA produces a by-species localized segmentation.

Now, a sonar for Ecosystem mapping

The special shape of SeapiX's DS-MBES acoustic transducer enables real-time view of a 360° high-resolution bathymetry scan. This classification of the underwater ecosystem helps to correlate fish population with environmental understanding.

A sonar easy-to-use

SeapiX (System) is easy to install, and easy to use.

TECHNICAL SPECIFICATIONS

Frequency	140 Khz to 160Khz
Modulations	CW and CHIRP
Number of element per swath	65 elements Along track and 65 elements Across track
Single Elément beam opening	1,6°
Array	Steerable Symetrical dual Multibeam
Acoustic processing with navigation	Realtime acoustic data fusion with navigation GIS system
Along track swath 1	SAT 120° / Tilt 40° / -40°
Along track swath 2	SAV 120° / Tilt 40° / -40° Automatic
Across track Swath 1	STV 120° / Tilt 90°
Across track Swath 2	STT 120° / Tilt 40° / -70° backward
Echosounder beam 1	In all Swath in all direction / Angle from 1,6° to 120°
Echosounder beam 2	In all Swath in all direction / Angle from 1,6° to 120°
Echosounder beam 3	In all Swath in all direction / Angle from 1,6° to 120°
Biomass analyze	Split Beam SAT Swath 120° TS and SV
Fish classification	Geographical Biomas Analyzer GBA Multilayer and TS/SV response
Biomass mapping	2D and 3D biomass mapping
3D acoustic presentation	2D and 3D acoustic presentation
Omni sonar view	Yes
Bathymetry	Bathy from all swath, dynamic and static bathymetry
Navigation & Chart system	Embeded ECS Navigation and charting system
Trawl gear representation	2D and 3D
Scientific data output (Option)	Yes, Raw, HAC
Motion sensor	embeded