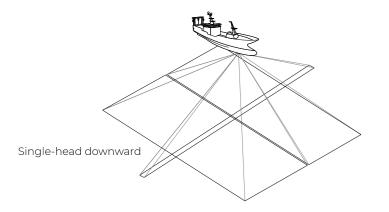


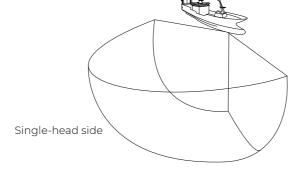


3D VOLUME SONAR FOR PELAGIC TRAWLERS



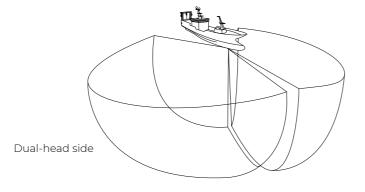
SeapiX-F carries out real-time full 3D pelagic biomass assessment, from shallow water (only 3m below the vessel) down to 500m water depth. SeapiX-F enables the formation of Across and Along track sonar swaths and Echograms, from Port to Starboard and from Fore to Aft. It provides true estimate of pelagic species abundance and fish classification from the whole water column to conduct more efficient and selective pelagic trawl operations.

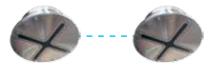




SeapiX is a unique modular concept on fishery market. SeapiX-F transducer provides surveillance of 120° x 120° water volume. A second or a third transducer can be installed to form a genuine "multi-head" SeapiX system.

Skippers can take advantage of SeapiX-PT features in various configurations (down, side, forward, etc...) to gather fish data in all directions and depth with the highest volumetric resolution.





SPECIFICATIONS

Acoustic power	8KW
Frequency	150 KHz
Number of beams per swath	512 beams (256 per swath)
Volumetric resolution	0.6m³
Pelagic fish coverage	120°x120° (650m wide @200m depth)
Bathymetry coverage	120°x120° (650m wide @200m depth)
Bottom demersal fish coverage	30°x30° (100m wide @200m depth)

RANGE

Pelagic fish	Up to 450m
Bathymetry	Up to 600m
Bottom echograms	Up to 750m

RANGE FOR NEAR BOTTOM FISHES

Horse Mackerel	250m
Hake, Atka Mackerel	280m
Red fish, Atlantic Cod, Pollock, Withing	330m
Pacific Cod	380m

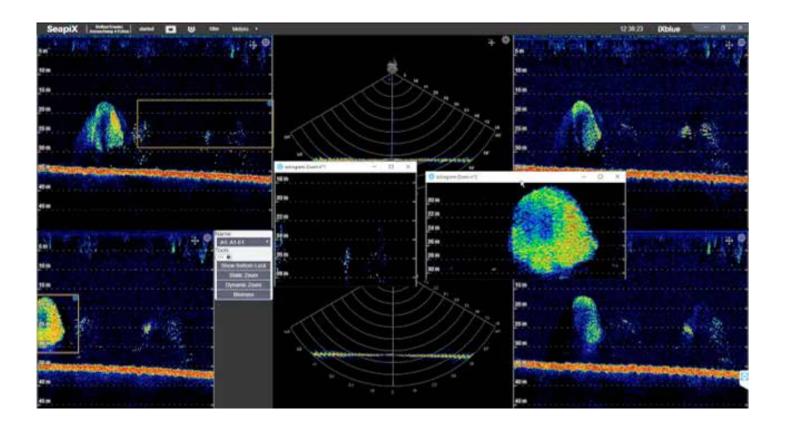
FULL VOLUME FISH FINDING SYSTEM

From 120°x120° up to 360°x120° volume surveillance

- · Single-head covers 120° x 120°
- Dual-head covers 120°x 240°
- · Triple-head covers 120° x 360°

Offers volumetric assessment & unique « all range » fish finding system

- · Volumetric sonar swaths and volumetric echograms
- 512 sharped pencils operating in high frequency with 4KW power from each head
- · Covering « all range » from 3m up to 400m distance



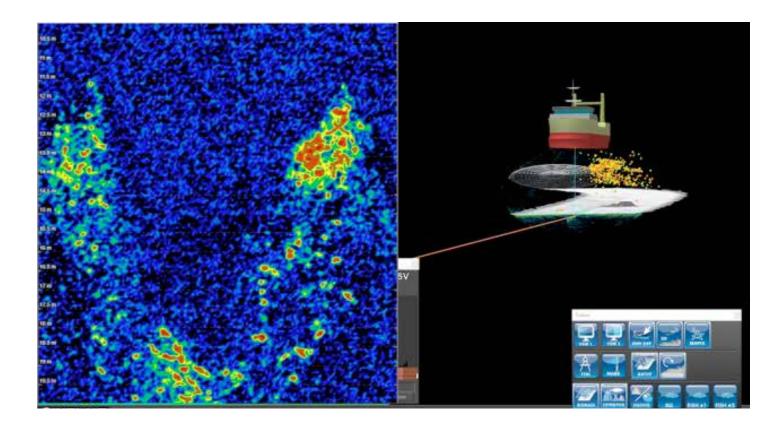
REALISTIC BIOMASS EVALUATION

Provides true abondance estimation

- Pencils of 1.6° forming 256 Split beams in Across track and 256 Split beams in Along track
- · 0.6m³ volumetric resolution
- Full 4K acoustic resolution available in sonar Swath and Echogram windows including zooms facilities

Classifies fishes in real-time

- Calibrated TS split beam in all beams allowing qualitative fish sampling for all individual detections from the whole volume
- · Classification by species in GBA analyzer
- Species and abundances shown by areas, layers or duration to trawl gear



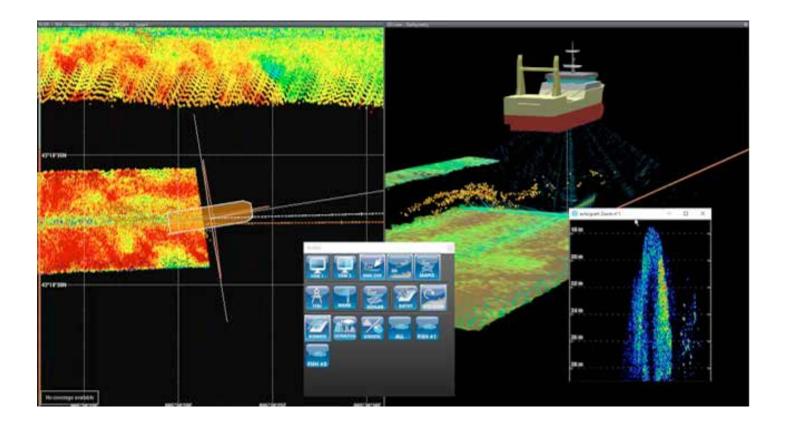
COMPLETE FISHING OPERATION AT A GLANCE

Shoal control and smarter maneuvering

- · Sonar swath and Echograms in all directions
- Zooms from Sonar swath and Echogram with up to 8K acoustic sampling resolution
- 3D geographic biomass analysis and multilayer analysis for all directions
- · Fusion and display of biomass data from one to 3 SeapiX-F heads

Correlates seabed, biomass and gear with vessel navigation

- · Data merged into 2D/3D navigation plotter
- 2D and 3D synthetic view to help decision-making for maneuvering



SMART OPERATIONS MODES

SeapiX-F offers both preconfigured operation modes and customizable ones by adding Echograms and Sonar swaths.

Narrow and Volumetric Echograms

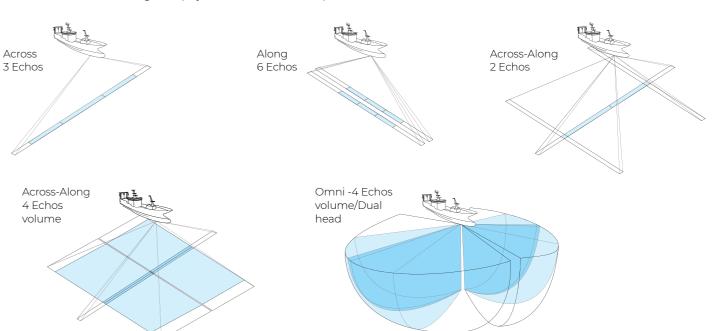
- 3 to 9 Echograms or more, from Aft to Fore and Port to Starboard
- · 1.6° narrow Echograms
- 6°, 10°, 15°, 40°, 50° volumetric Echograms (adjustable from 1.6 to 220°)

Sonar swaths in all directions

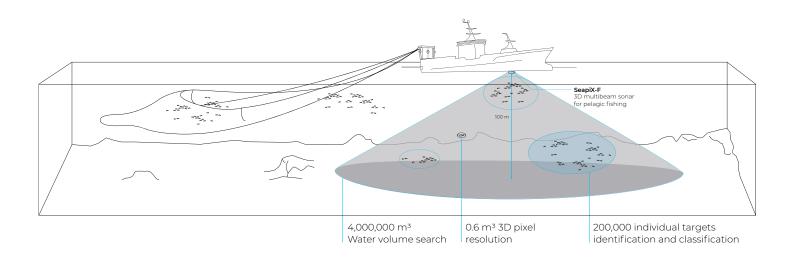
- 1 to 4 Sonar swaths or more, from Aft to Fore and Port to Starboard and in all directions
- · 1.6° narrow Sonar swath
- · 40°, 50° volumetric Echograms (adjustable from 1.6 to 220°)

Flexible fish and ecosystem analysis

- · Biomass analysis from selected Echograms or Sonar swaths
- Bathymetry from selected Sonar swath, from Port to Starboard or Aft to Fore



SOLUTION FOR PELAGIC TRAWLING



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