

# SEABEAM ELAC1185 MULTIBEAM ECHOSOUNDER

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## GENERAL ASPECTS

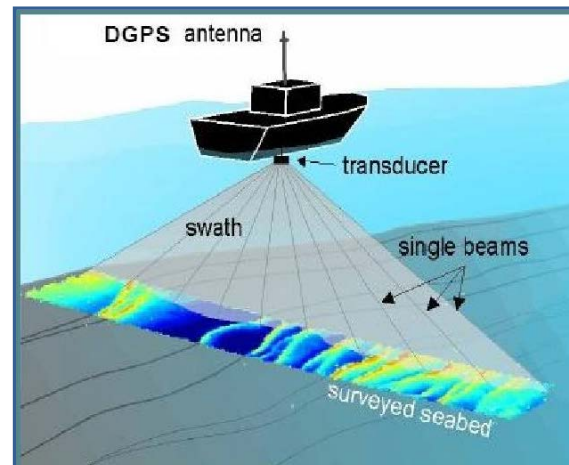
The multibeam (MB) echosounder is a hydroacoustic instrument used for the performance of precision bathymetric surveys.

## COMPONENTS

- 2 transducers: the components that emit and receive the beams.
- Processing unit: the component in charge of generating and processing the beams.
- Software to process the information generated by the MB equipment.

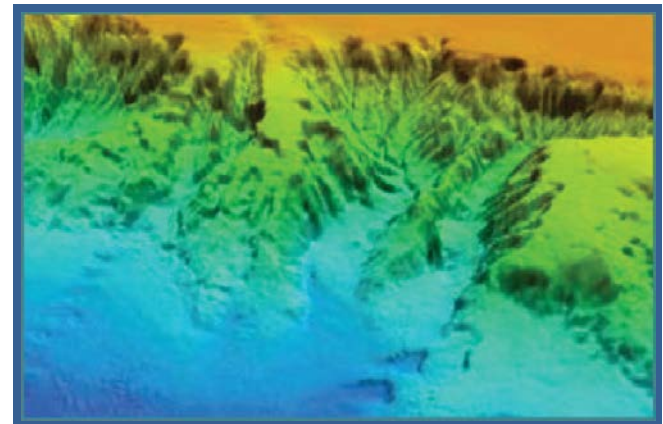
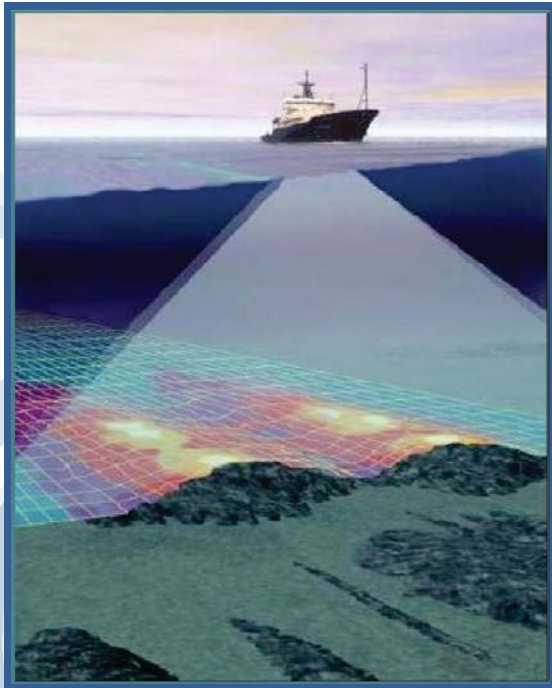
## EXTERNAL COMPONENTS

- GPS (provides positioning data for the system)
- Movement sensor (Motion)
- Sound velocity profiler (SVP)
- Compass (provides the precise bearing)



## FUNCTIONING

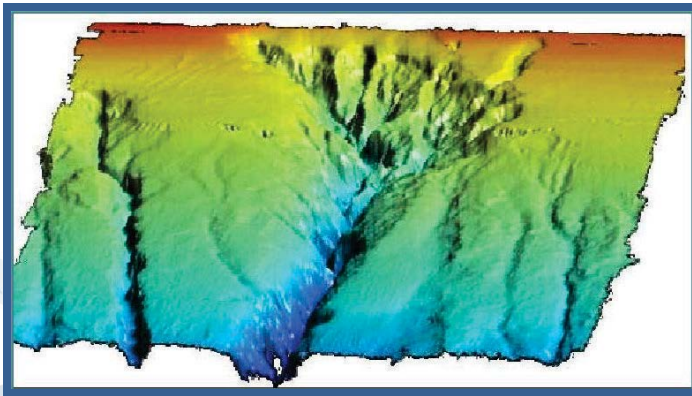
The same as an echosounder, the ELAC1185 emits an acoustic pulse that when reflected by the marine bottom transforms the travel time of the signal into a distance value. This when multiplied by 126 times makes achievable a swath coverage angle of  $153^\circ$ .



## APPLICATIONS

### Precision bathymetry with total coverage of the marine bottom

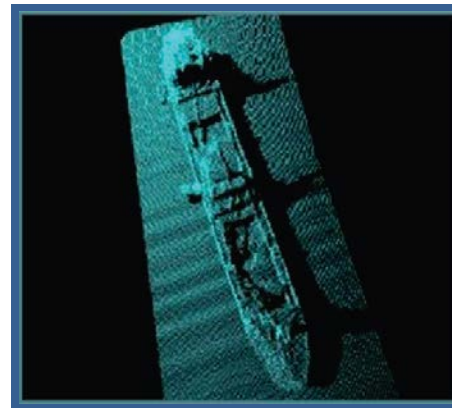
The great advantage of the multibeam technology is the amount of information that is obtained with one single scan of the swath covering the area of interest. This makes it possible to ensure that, unlike in the case of the single beam echosounder, no areas without information will exist between lines.



3D model generated on the basis of a precision survey made by multibeam technology.

### Detection of submerged objects.

Image of a merchant vessel recorded in a multibeam survey.

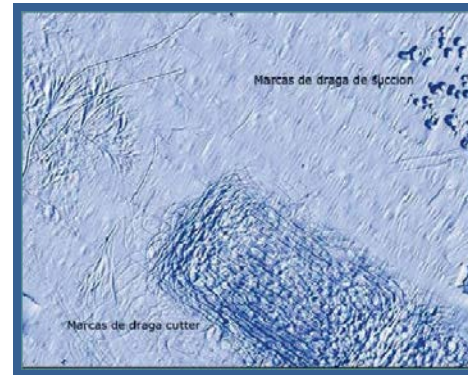


# APPLICATIONS

## Control of Dredging

Precision increases considerably for the performance of dredging control tasks while survey times in the field are reduced.

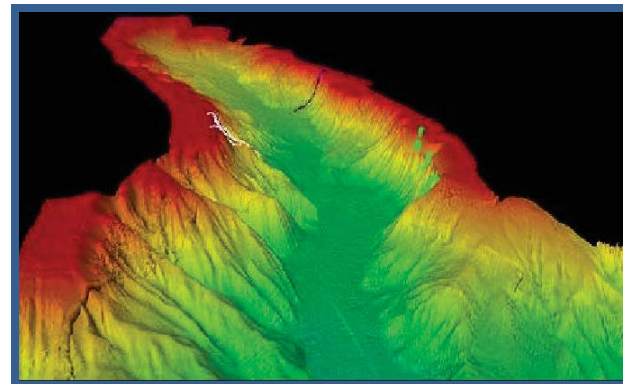
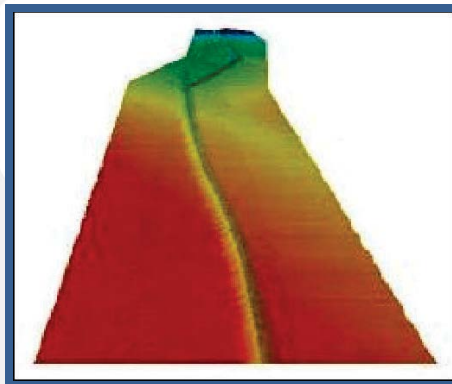
Multibeam image in a dredging area



## Alignments of submarine cables and pipelines

Optimum areas can be detected for the alignments for submarine alignments and structures (cables, pipelines, oil platforms) with a precision of less than one meter.

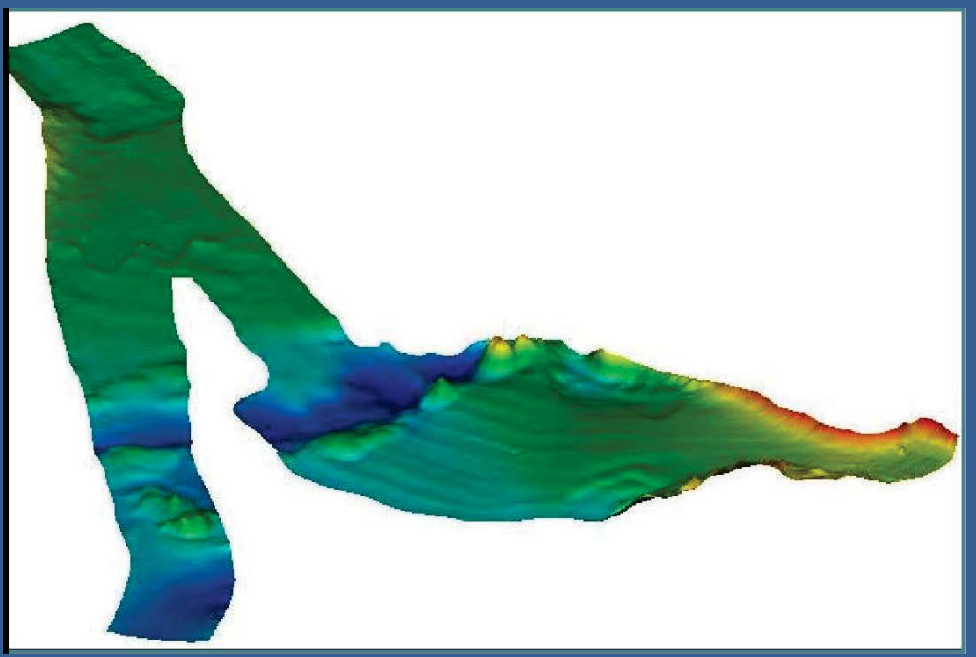
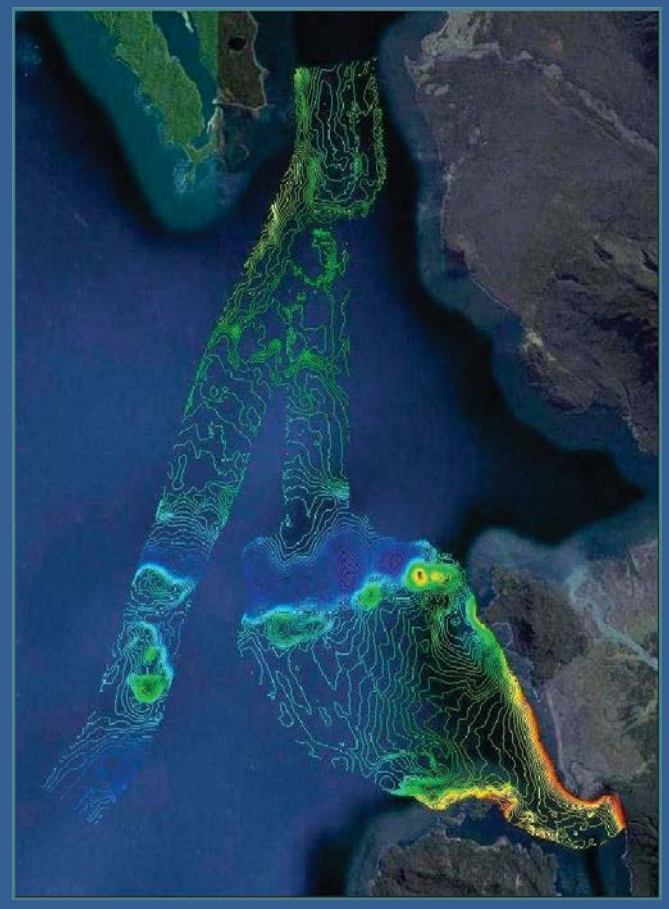
Detection of a submarine pipeline



Digital field of a submarine canyon



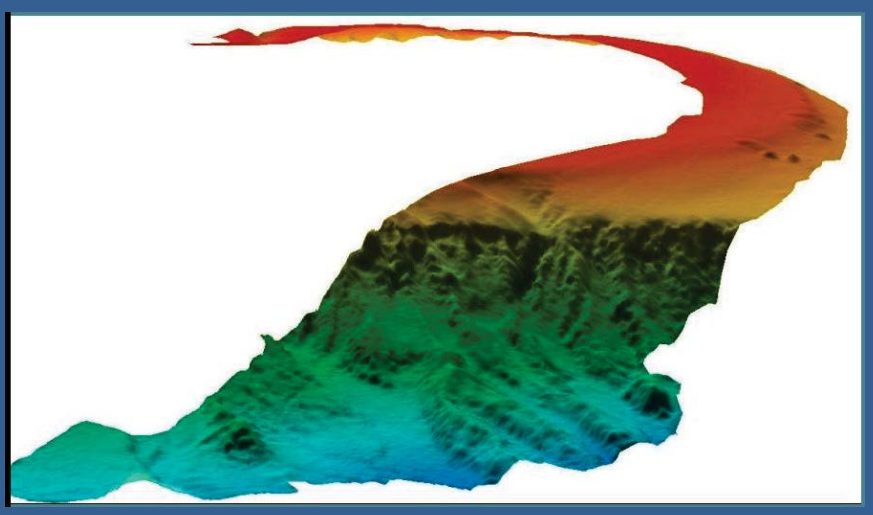
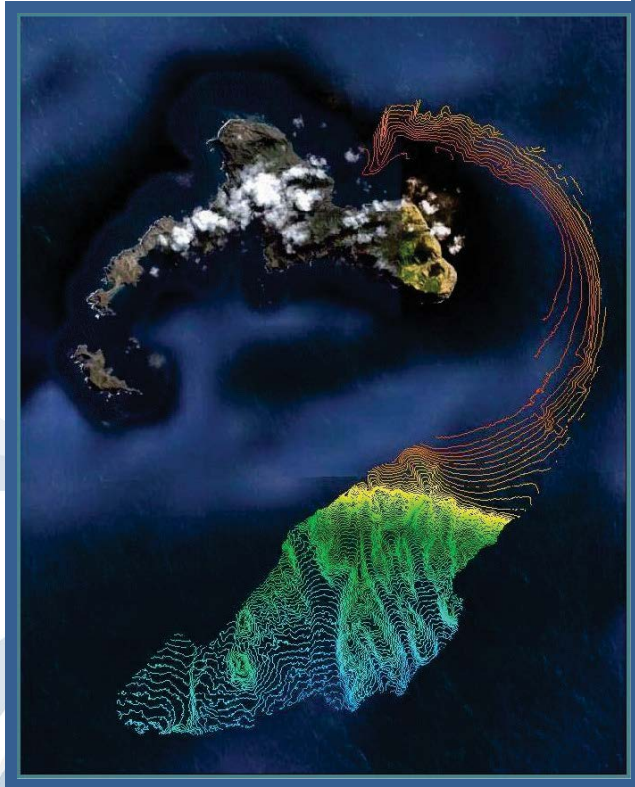
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Digital field model made in southern Chile.

Survey performed in December 2009.

## SEABEAM ELAC1185 MULTIBEAM ECHOSOUNDER



Digital field model of Robinson Crusoe Island,  
Juan Fernández Archipelago, Chile.  
Maximum depth: 2300 m.  
Survey performed in December 2009.

## EXPERIENCE

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## EXPERIENCE

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Multibeam bathymetry, Austral Cable Route, Chiloé, Tenth Administrative Region. Chile, **NORDDEUTSCHE SEEKABELWERKE GMBH & CO. KG. SUBMARINE CABLE SYSTEMS**, 2007.

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Multibeam Bathymetry and Geophysics Study for the URUCU-MANAUS Gas Pipeline, Amazonas, Brazil, **PLANAL SERVICOS DE ENGENHARIA**, 2008.