# BATHYMETRY DATA UTILIZATION IN PETRONAS

Deepwater Operation Areas

PETRONAS operates in both, shallow and deep water areas. To date, PETRONAS has four main operation areas where water depths exceed 1000m. Here public domain data becomes very useful for initial survey planning, due to the limitations of accurate bathymetric data.

GEBCO data is one of the public domain sources providing reliable bathymetry data.
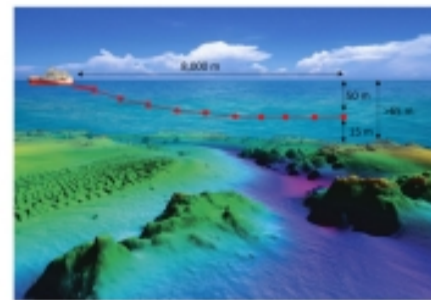

Marine Seismic Survey Planning
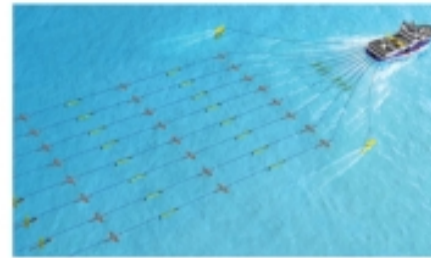
Marine Seismic Surveys demand reliable bathymetry data. The selection of acquisition technique, equipment and vessel are dependent on the bathymetric and seabed profile.

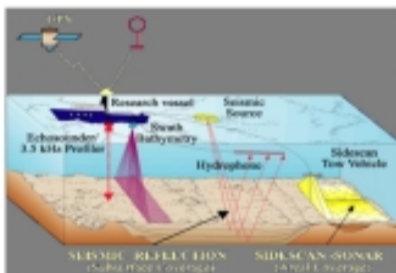This will significantly contribute to operational efficiencies and cost impact.

For example: Broadband technique may require water depths exceeding 65 meters.
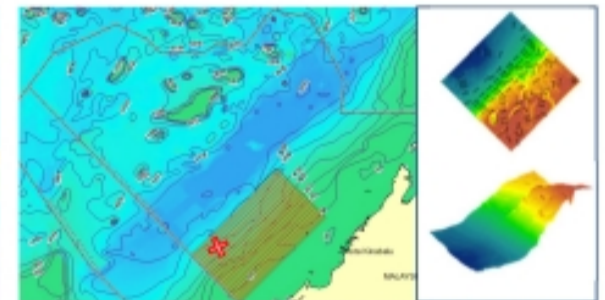
Example : The use of GEBCO bathymetric data for initial survey planning in offshore Sabah.
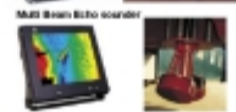
Geohazards Investigations (for safe installation and inspection of assets)

➢ Conventional Survey

➢ Shallow Water (10 m - 200 m)
➢ Conventional Survey

Bathymetry

Single Beam Echo sounder

Multi Beam Echo sounder

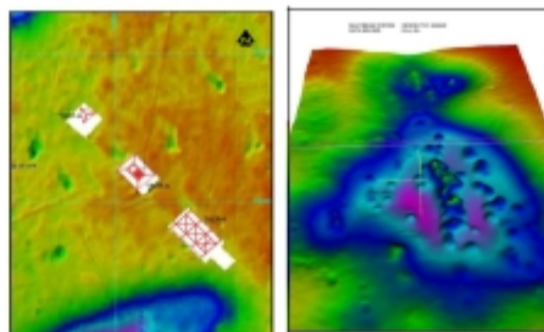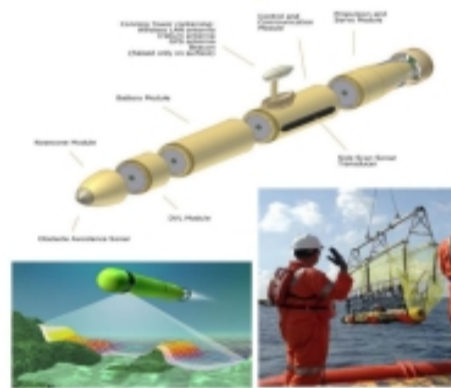Sub-bottom profiler

Side Scan Sonar
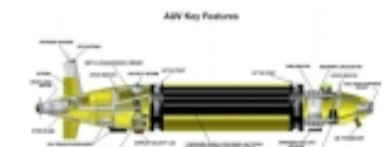
2D HiRES

• Results

Conventional technique, unable to go close to the platform, which results the blank spots. Lower bathymetry resolution compared to AUV.

➢ Autonomous Underwater Vehicle – Improved Resolution.

Mini AUV for intermediate water depths
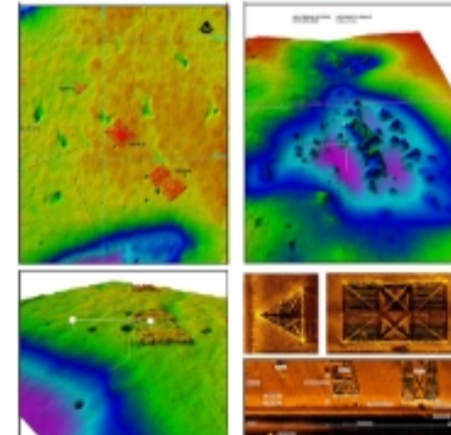➢ 10m to 1000m
➢ Based on special requirements

For Deepwater
➢ - water depth more than 1000m.
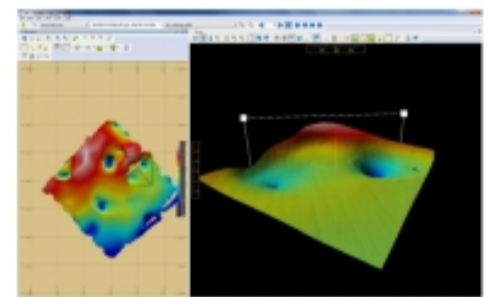

Special design AUV, which are more suitable for deepwater environments
*Courtesy of FUGRO
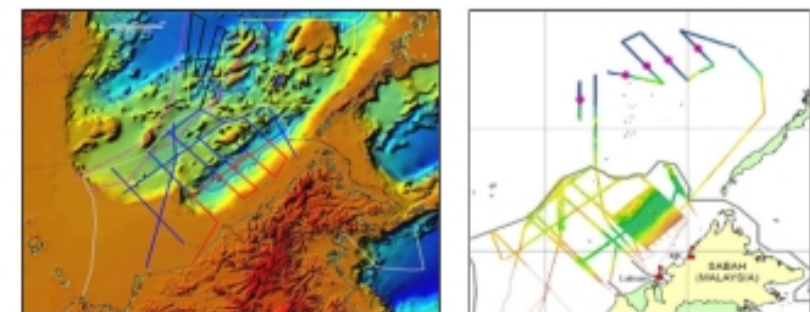
• Results – High Resolution Image

AUV successfully collected bathymetry data below the platforms using 500kHz GeoSwath multibeam echo sounder
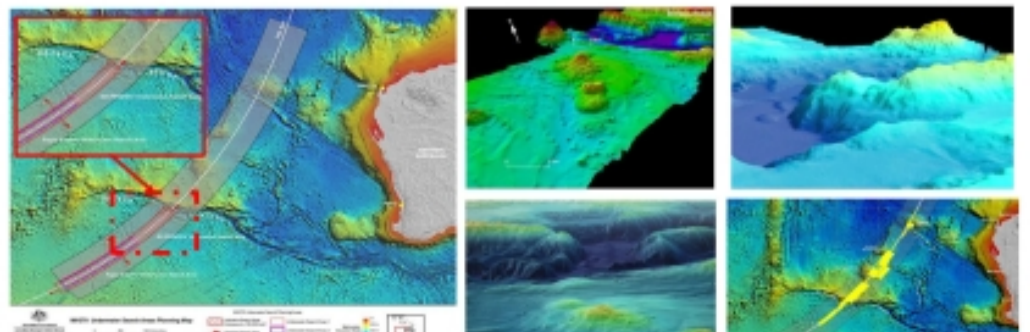
Other Recent Deepwater Survey Involvements

Malaysia Marine Research Survey for Continental Shelf (MyMRS)

MH370 SAR (Partial Involvement)

*Courtesy of ATSB

Data Example