

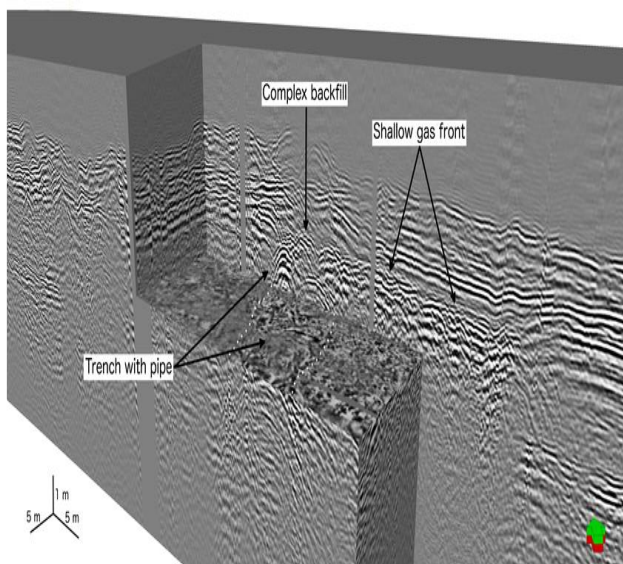
3D Chirp

Surface-towed sub-bottom profiling system capable of producing 3D seismic volumes of the upper tens of metres of sediment and imaging buried structures and objects with 3D decimetric resolution.

A 60 hydrophone array significantly enhances signal to noise ratio over a standard single channel profiler.

Thanks to the ± 3 cm RTK/MRU accuracy, all "out-of-plane" energy can be correctly focused to the real sub-surface location. This provides accurately located, geometrically correct images.

Developed by the University of Southampton and Kongsberg GeoAcoustics, 3D Chirp is the perfect base for shallow-water engineering and geotechnical applications.

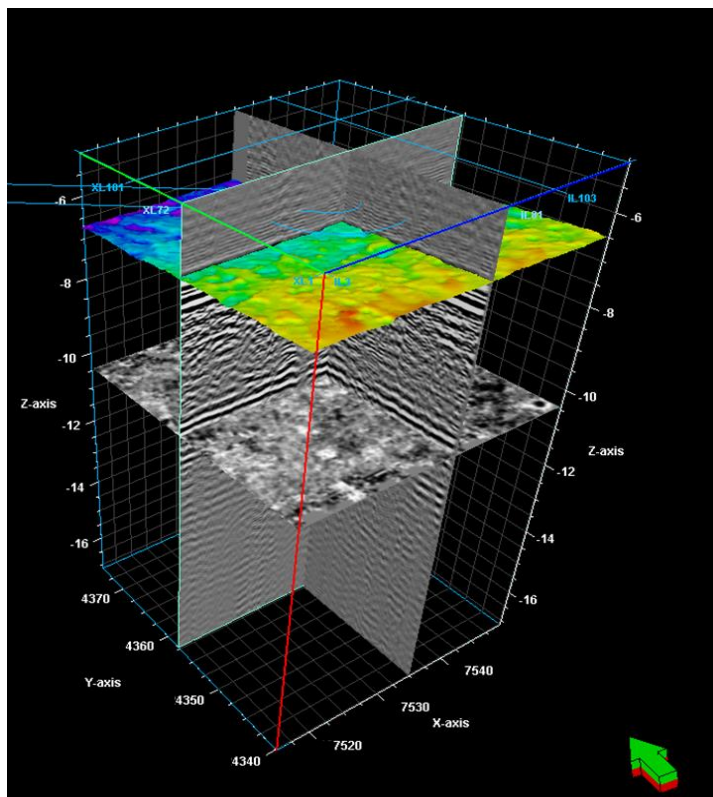


True 3D Imaging

The dense receiver spacing combined with the high-accuracy RTK/MRU, allows all the reflected energy to be recorded unaliased (both temporally and spatially) and accurately placed geographically.

Permits use of advanced pre-stack processing methods that optimise the fidelity of the final image, providing an unparalleled characterisation of the shallow sub-seabed.

The 3D Chirp produces structurally correct, geological images of structures at a broad range of scales, particularly useful for understanding complex structure, such as palaeochannels or submarine landslides



Key Features

- Extremely high vertical resolution:
 - Fine-grained clays/silts ~ 5 cm
 - Sands/gravels ~ 10-15 cm
- Chart buried stratigraphic boundaries at 12.5 cm resolution.
- Accurately map architecture of complex structures.
- Improved signal-to-noise and penetration over traditional 2D systems.
- 2D & 3D viewing, including time and strata slices.

3D Geological Structure

All imaged geological structure, both seabed and sub-seabed, can be mapped in 3D throughout the volume with a horizontal resolution of 12.5 cm (equivalent to high-resolution multi-beam data).

Permits complex geological structures, such as faults, folds, mass wasting deposits, palaeochannels, and shallow gas accumulations to be mapped with confidence.

Quantitative Geological Characterisation

SAND has developed several bespoke seismic inversion methods specifically tuned for application to high- and ultra-high-resolution marine geophysical data. Where appropriate calibration data is available, these methods can be used to derive 3D volumes of geological properties and map their spatial variation with sub-metre horizontal resolution.

