



Oasis montaj Beneath the Sea: Mapping and Charting of the seabed and sub-seabed

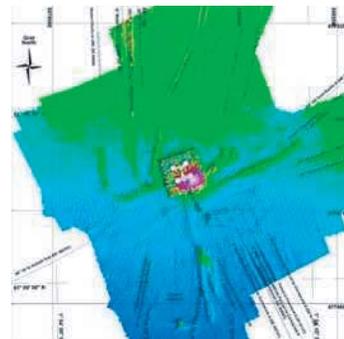
Svitzer Ltd., the U.K. geophysical and hydrographic surveying company, is an industry leader in the mapping and charting of the seabed and sub-seabed. They currently operate five vessels worldwide, primarily for the energy, telecommunication and defence industries.

In the past five years, three of their vessels have been fitted with permanent swathe bathymetry installations. These vessels are active in acquiring high volume topographical information about the seabed — ranging from the continental shelf to the deep ocean.

Three years ago Svitzer selected Oasis montaj™ as its primary tool for the data processing and analysis of swathe bathymetry data. Today they have nine licenses, one of which includes the GX Developer – a C-like subset of tools available to advanced Earth Science software programmers who want to customize their Oasis montaj™ systems.

Swathe Bathymetry Processing

In 1994, Svitzer implemented an independent software package for the processing of swathe bathymetry data and the creation of digital terrain models, separate from the system recommended by the swathe manufacturers, at that time. The aim was to establish routines within software that Svitzer controlled, for the analysis of swathe bathymetry data sets. Since that date, many efficient routines have been created for the analysis and processing of swathe bathymetry data and are routinely used both on our vessels and in the office.



Today, Svitzer have six Atlas swathe acquisition systems commissioned on their vessels, allowing the company to acquire data on the continental shelf through to full ocean depth. Numerous surveys have been completed since the first system was installed on the Svitzer Magellan. Projects have been as diverse as surveys for trans-ocean cables, regional surveys (EEZ), high definition engineering surveys (cutting mounds) and pipeline route surveys.

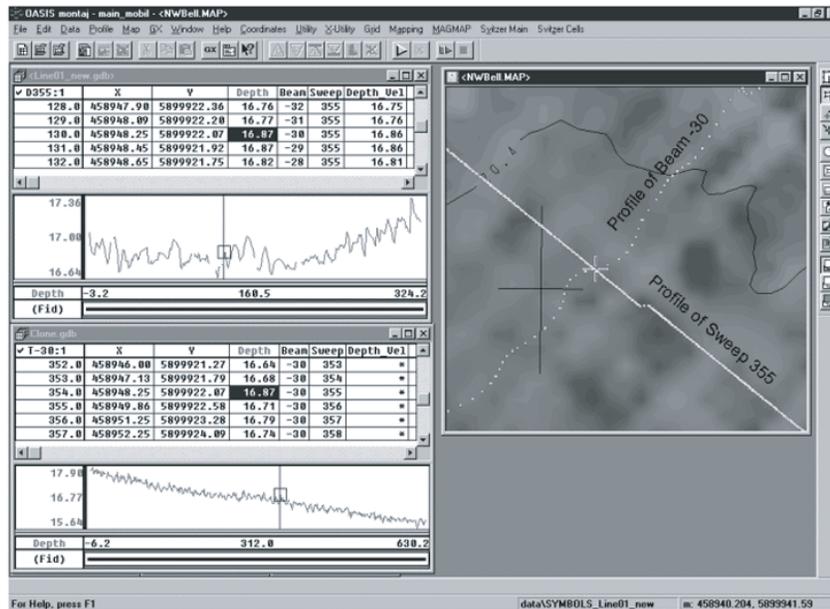
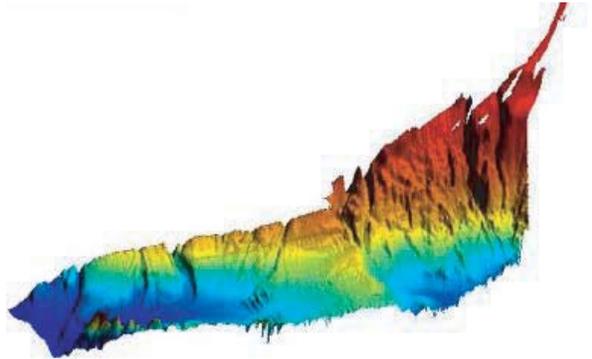
All of these have used Geosoft's Oasis montaj data processing and analysis software. Together with the routines that Svitzer have generated, this software has enabled Svitzer to quality control swathe data and create excellent products, for our clients.

Delivering High Quality Charts to Clients

In the early days of acquiring and processing swathe bathymetry data, it was obvious that there was a need for greater control and increased understanding of software capabilities, if products were going to be of the highest quality for clients.

Since many of the parameters and artifacts in their data sets were analogous to those in airborne gravity and magnetic processing, Svitzer initially started by using the FFT processing routines available in Oasis montaj. Svitzer's mapping specialists then advanced to custom development — leading to the acquisition of GX Developer software early in 1998. The result is a host of routines for use on swathe bathymetry datasets. These range from statistical analysis, through to system error correction, to further filtering routines.

Case Study



ADVANCED PROGRAMMING BY EXPERT SVITZER PROGRAMMERS HAS PRODUCED RESULTS SUCH AS THE LINKING OF INDEPENDENT SWEEP AND BEAM DATABASES. MAP SHOWS THE PROFILES FOR SWEEP 355 AND BEAM -30.

Typical uses of Oasis montaj are for high definition engineering surveys where the client requires decimetric contouring in up to 200 metres water depth, through to the charting of the ocean floor for telecommunication cables between continents.

Geosoft's platform has also been found to be a very valuable tool in the presentation of geophysical data, having recently been one of the key software products used in the production of 'The Geohazard Study For The Faeroes GEM Network'.

Geosoft would like to thank Svitzer, and especially Graham Cooper and his team of professionals, for their contribution.