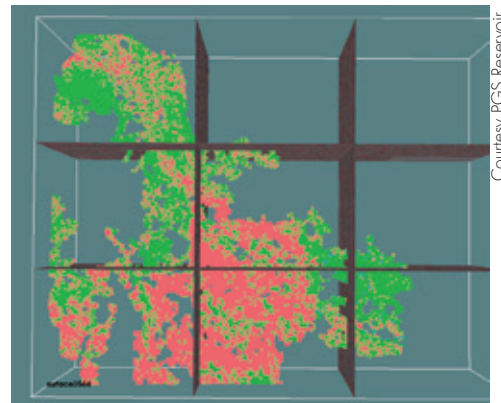
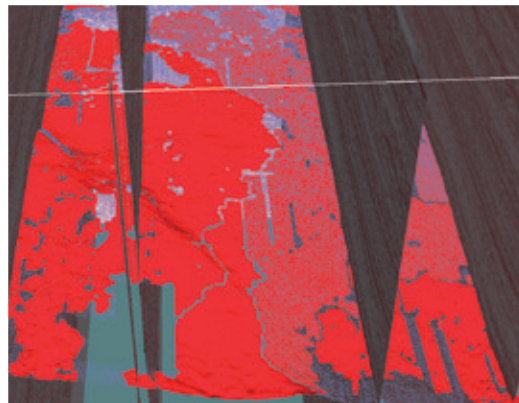


Small Team Develops 'Big' Software

The small development team at the Norwegian software and services company Geocap AS have big ambitions. Working with financial support from oil companies such as Det Norske, Concedo, and RWE Dea, they have developed their Geocap Interpretation Machine (known as GIM) to give interpreters new and efficient ways of visualizing their reservoirs and working in 3D.

Geocap's software supports geoscientists in their work with geological and geophysical data. In addition to users within the oil and gas E&P community, Geocap also has a large user group within continental shelf mapping (UNCLOS). Recently Geocap has in addition put focus



An example of the facies attribute mapped on a surface in a PGS megasurvey tile.

on seabed mapping (single and multibeam processing). Essential to all these areas of Geocap usage is high quality 3D graphics in combination with a project manager which can hold and

organize a great variety and large amounts of geodata. In addition to the latest GIM developments (Geocap Interpretation Machine), other strengths of Geocap are gridding, plotting, depth conversion, and geo-presentations. Geocap has its own scripting language and command shell making it possible for the user to interact with the project data in a very flexible manner. The user can also build custom programs/scripts with fully developed user interface menus.

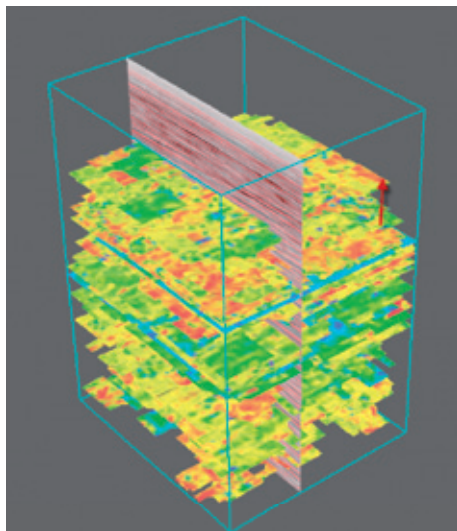
One of the main objectives of the GIM research project has been to automatically identify and filter out specific facies patterns from the GIM database, a technique which is still under development but which has so far had promising results. The GIM facies attribute works differently from other conventional attributes, such as amplitude or RMS, and will tend to show patterns that clearly relate to the geological facies at each surface in the database. The GIM movie display makes it possible to investigate a seismic volume in new ways, scanning through thousands of surfaces in a matter of minutes, with the ability to pause at any feature of interest.

The research team at Geocap is also aiming to integrate the GIM technologies with seismic gathers. The user would be able to load and visualize gathers in

the Geocap environment, after which the GIM tracker would run through them and produce GIM surfaces. This will give the user a very powerful tool in gather investigations, with AVO anomalies being mapped out on the GIM surfaces using the "movie mode" visualization tools. The GIM seismic is considered to have higher resolution and more detail than can be seen in conventional seismic displays. By enabling seg-y export of GIM tracking, users are able to take advantage of the benefits of GIM in any seismic interpretation system.

The aim of using GIM technology is to enable automatic identification of many geological and structural features in seismic data which the human eye instinctively captures, such as unconformities and onlaps, faults, reefs, gas chimneys and 4-way dip closures. In addition to this, GIM analysis will allow the user to generate bodies of features such as faults, salt diapirs and reefs where the seismic quality is poor. GIM surface visualisation rapidly allows a user to become familiar with all aspects of a seismic 3D volume.

With this latest commercialization of GIM Interpretation and GIM Attributes, Geocap demonstrates that sometimes "big technology" can indeed come from small teams. ■



GIM software can identify and map up to 10,000 surfaces, allowing the user to view and analyse each surface individually or in a walk through movie mode.

Image: Geocap

