"A Fleet for the Future"

With three "new generation" 3D vessels and one 2D high-end vessel coming this year, all with big sources and long streamers capable of imaging deep targets, SCAN Geophysical is about to establish themselves as a serious player in a very competitive market.

Lars Johan Frigstad (CEO), Kjell Karlsson (Vice President Sales and Marketing) and Stephane Touche (Senior Vice President and COO) have secured future capacity in a strong seismic market by building 3 new vessels, each with 8 x 10,000m streamer capacity, meaning that the company can take on medium to large 3D seismic surveys.

Founded a mere four years ago, and entering the streamer market late 2005, SCAN Geophysical belongs to the new generation of seismic companies that is rapidly conquering their share of an increasing market.

The company may be young, but the staff is experienced. They have all learned to build seismic vessels and acquire seismic data when working for the seismic industry's supermajors: WesternGeco, PGS and CGG.

SCAN was established in March 2002 as a Norwegian seismic data acquisition company specializing in both marine streamer seismic and ocean bottom cable seismic. The company is currently operating one 2D and one 3D streamer vessel. In addition, they also offer 4C ocean bottom seismic. Last year, three purpose-built 3D vessels capable of towing 8 streamers, each with 10km capacity were contracted. They are being built in India and will be delivered in the end of this year and beginning of 2008. Each vessel costs about USD 70 million.

Another high-end 2D vessel, with added dual source and specific target oriented three streamer 3D capabilities, coupled with the ability to work with up to 12 km of streamers was also contracted last year. "This will be a uniquely-capable ship and the most modern 2D seismic vessel on the market," says Kjell Karlsson, Vice President Sales and Marketing.

"We now have an organisation to handle six seismic vessels," says Lars Johan Frigstad, President and CEO of SCAN Geophysical. More than 130 persons are presently working on Scan's vessels. In December they began a 3D contract offshore Venezuela for Chevron, the first survey in the Americas for SCAN, following the completion of their very first 3D seismic survey, a 4-streamer operation offshore Tunisia carried out with M/V Scan Resolution.

"Moving to the Americas is consistent with our plan to expand seismic value worldwide," says Stephane Touche, Senior Vice President and COO. "Our strategy is to work directly for the oil companies. We do not have in mind to enter the multi-client seismic market, as yet," ads Frigstad.

SCAN Geophysical is listed on the Norwegian OTC list since July 2006 and plan to be listed on the Oslo Stock Exchange during the first half of this year.

Illustration: SCAN Geophysical

ABBREVIATIONS

Numbers
(U.S. and scientific community)

M: thousand = 1×10^3
MM: million = 1×10^6
B: billion = 1×10^9
T: trillion = 1×10^{12}

Liquids

barrel = bbl = 159 litre
boe: barrels of oil equivalent
bopd: barrels (bbls) of oil per day
bcpd: bbls of condensate per day
bwpd: bbls of water per day

Gas

MMscfg: million ft^3 gas
MMscmg: million m^3 gas
Tcfg: trillion cubic feet of gas

Ma: Million years ago

LNG

Liquified Natural Gas (LNG) is natural gas (primarily methane) cooled to a temperature of approximately -260 °C.

NGL

Natural gas liquids (NGL) include propane, butane, pentane, hexane and heptane, but not methane and ethane.

Reserves and resources

P1 reserves:
Quantity of hydrocarbons believed recoverable with a 90% probability

P2 reserves:
Quantity of hydrocarbons believed recoverable with a 50% probability

P3 reserves:
Quantity of hydrocarbons believed recoverable with a 10% probability

Oilfield glossary:
www.glossary.oilfield.slb.com

Better Exploration Decisions

The software assists you in decision-making based on your own geological and economic data through a systematic and scientific approach using probabilistic methods.

"The focus is on two essential factors, risk and uncertainty, and how the combination of these factors influences the expected economic value of prospects. We thus offer a system for support of exploration and exploitation decisions that is used by explorationists, engineers as well as economists," says Charles Stabell, Managing Director of Oslo-based GeoKnowledge.

"For consistent and accurate assessment of exploration risks, the overall risk is determined by assessing independent risk factors such as source rock, migration, timing, reservoir and trap formation."

"In very simple terms, uncertainty is stated by defining not only your best estimate of prospect attributes - such as area of closure, thickness, contacts and porosity - but by also defining a range of values with their likelihood of occurrence," says Stabell.

Since 1985, GeoKnowledge's objective has been to assist oil companies, service companies and governmental bodies in evaluating risks, resources and economic value in exploration and exploitation projects. Their main offering is the GeoX software that consists of a series of tools, suitable for both small and large companies that want to carry out a systematic probabilistic analysis of plays, prospects and assets.

"The GeoX family of tools provides decision support for prospectivity and economic analysis of exploration opportunities. It can be used for drilling decisions as well as the evaluation of farm-in proposals or for assessing the potential of license-offerings. Moreover, all tools work with data that is stored in a common database that facilitates use, sharing and integration of analyses over the whole E&P life cycle," adds Per Audun Hole, GeoKnowledge's Chief Operating Officer.

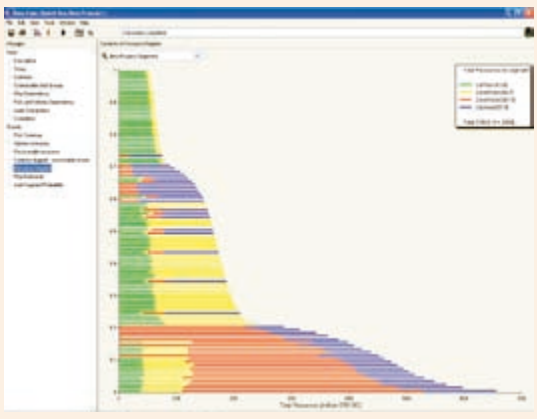
Photo: Halfdan Carstens

Charles Stabell and Per Audun Hole in GeoKnowledge are proud of GeoX, a software they like referring to as "the leading-edge exploration decision support solution for play and prospect analysis".

More than 50 companies worldwide now have GeoX as their corporate prospect assessment solution, and approximately 2500 individuals actively use the software on a regular basis. Customers include majors, independents, national oil companies, niche players, consultancies, seismic companies and government agencies. The latest version of GeoX thus incorporates more than 15 years of active collaboration and interaction with premier exploration companies around the world.

Charles Stabell admits that the software both requires and promotes discipline throughout the process. "Management requires this in order to secure comparability across evaluated projects in a company. On the other hand, the reward is high as it gives the opportunity to take advantage of the experience gained. The value of having a fully databased prospect assessment system is obvious. It not only enables consistent evaluation of projects for ranking of opportunities worldwide, but it also facilitates portfolio analysis and post-drill tracking of assessment performance".

"The general feedback we get from our customers is that GeoX is easy to use, logical and intuitive, yet capable of modelling complex prospects," says Stabell. "The main challenge is translating geology into a realistic assessment model. We therefore now also offer courses on the fundamentals of modern risk and uncertainty assessment".



Example from GeoX - Visualization of results from assessment of a prospect with 4 segments, showing the contribution of resources from each segment and the distribution and total resources.

OIL PRODUCTION 2005

	Mbopd
Middle East	25 118
North America	13 636
Russia	9 551
Australasia	7 991
South America	6 964
Northwest Europe	5 154
West Africa	4 722
North Africa	4 487
FSU	2 248
Other	1 205
Total	81 076

Source: BP Statistical Review of World Energy

Photo: Halfdan Carstens

Accessing Global Data


Photo: GRM Photo

Jackie Forrest is the Desktop Product Manager for IHS's new data management tool, Enerdeq. Jackie is a certified professional Engineer and has worked in the oil and gas industry for more than 10 years. She is Canadian and is based in the IHS office in Calgary.

"With a couple of clicks, I can access global oil and gas data from my PC", says Jackie Forrest, Desktop Product Manager for Enerdeq, the new data tool from IHS. "I can rapidly query, browse, report and graph the most up to date data. I can also import and export both IHS and proprietary information in a variety of formats, and view and map my data in a GIS environment."

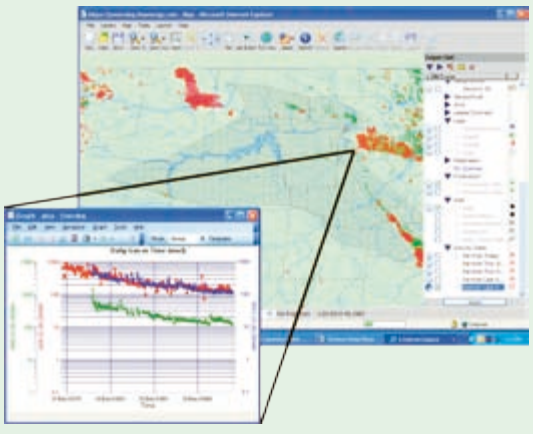
IHS is one of the foremost providers of information and data to the oil and gas industry, as well as software, consulting services and worldwide industry insight. The company has been in business for more than 45 years and employs 2,500 people around the world, supplying decision-support tools and related services to customers in a number of industries, including hydrocarbons, defence, aerospace, construction, electronics and automotive. The energy segment of the company has evolved from the merger of a number of major players in the information sector, such as Dwights, Petroleum Information, IEDS, Petroconsultants and MAI.

Through these companies IHS has been developing PC and web-based data provision systems for a number of years. However, because of the diverse geographical and technical nature of the companies which came together to make up IHS, historically the organisation has had different software solutions to access oil and gas data in different markets. These include Probe, which is used for international oil and gas data, and Accumap, the Canadian database tool. "After intensive research, we have developed Enerdeq as a platform to access all IHS data globally," Jackie explains. "Enerdeq has four different 'deployments,' including a desktop application and a web browser giving instant access to information, so it can be used as a stand-alone system or on a network. Additional web services allow easy transfer of data between applications, such as economic and geoscience packages, while the Arc Map extension allows clients access to the power of GIS."

The Enerdeq software is based on a central map feature flanked by pull-down menus that allow the user to access and display a wide range of data, from wells and pipelines to leases and surface features. When the cursor is run over the map, it can query and reveal hidden data on any given displayed item, from ownership to production history or geological information. "In-built tools then allow the user to analyse, sort, map or graph information before exporting to other applications," adds Jackie.

Enerdeq versions available today include Enerdeq Desktop with Canadian Data, and the Enerdeq Desktop, Enerdeq Web Services, and Enerdeq Browser, all available with US data. The global version is undergoing tests and development and will be available in the near future.

"Nobody else has accumulated the same breadth and depth of industry information," says Jackie. "Using Enerdeq to access it results in an enhanced workflow, streamlining the time it takes to collect and analyse oil and gas data."


Using the map-based interface, Enerdeq users can access and manipulate a wide range of data and information, using sources from both the public and propriety sector.

A Monster Needs Help

To make the largest fossil excavation in the Arctic happen we need close to 300,000 dollars. Several sponsors are interested in supporting the project, but we need several more. If you want to be part of this incredible excavation, this is the time.

During fieldwork last year south of Diabasodden, Svalbard, we found one of the most important new sites for marine reptiles worldwide. In terms of number, a remarkable 28 new individuals were documented during the short two-week field period, nine of which are believed to be significant discoveries. This tally ranks Svalbard as one of the most productive sites for marine reptiles in the world. The fossilized remains are very well preserved.

The most remarkable discovery made during the expedition was that of a gigantic pliosaur. Based on the fossilized remains of its skull, limbs and backbone found weathering out of a steep hillside, the skeleton promises to be one of the largest pliosaurs ever discovered.

Jørn H. Hurum, Natural History Museum, University of Oslo, Norway

If you want to know more or to support the excavations financially, you will find the full story at **www.geoexpro.com**


Illustration: Tor Sponga, BT

Dedication to Planet Earth

This will be a great surprise to many. The fact is, however, we have already entered the International Year of Planet Earth *that starts next year*, i.e. we have entered the first out of three years dedicated to our own planet.

The International Year of Planet Earth (www.yearofplanetearth.org) is a joint initiative of the International Union of Geological Sciences (IUGS) and UNESCO. It has been proclaimed by the UN General Assembly for 2008 who was convinced "that education in Earth sciences provides humankind with tools for the sustainable use of natural resources and for building the scientific infrastructure essential for sustainable development".

At least three years will be needed to realize most of the ambitious science and outreach plans. This UN Year (2008) is thus the central year in a triennium that starts in January 2007 and ends in December 2009.

The aims and ambitions of this triennium are to demonstrate the great potential of the Earth sciences in the building of a safer, healthier and wealthier society, and to encourage applying this potential more effectively. Therefore, the prime target groups for this International Year are politicians, educational systems, and the general public.

The reasoning behind the international year is that "the geosciences can contribute significantly to a safer, healthier and wealthier world; and that this potential contribution is seriously under-used by society and should be substantially increased".

In 2007-2009, the International Polar Year (IPY) will constitute another Earth-related international year.