

» IRIS – The International Research Institute of Stavanger:



Thierry Baussant



Aina M. Berg



Cutting-edge research and technology from IRIS enables new and more accurate methods for environmental and safe drilling.

IRIS – The International Research Institute of Stavanger – combines innovation, technology and an environmental emphasis. Their applied research areas are in the very forefront of the international petroleum industry.

Sustainable drilling

IRIS, formerly known as Rogaland Research was established in 1973. Longstanding petroleum industry know-how forms a solid foundation for cutting-edge research that really makes a difference.

“We have full scale drilling rig (ULLRIGG), where we test all the technology we develop. This enables a safer and shorter route to the North Sea”, says Senior Vice President Aina M. Berg.

The research institute was a key actor in making the industry step change from a manual to a mechanical workplace and is now playing a similar role as the industry moves towards automated drilling.

“Automated drilling is one of our three key research areas. We have 60 people working with drilling and well modeling and have developed unique and superior software tools that improve both the financial feasibility as well as minimizing environmental impacts”, she adds.

EARLY WARNING AND HIGH RELIABILITY

“Efficiency and safety are often perceived as opposing goals. An automated approach also enables fast and reliable early detection systems that can prevent blowouts or other instability problems causing costly interruptions in production. Huge amounts of data can be processed in a very

short time to deliver reliable information for decision-making”, explains Berg.

IRIS has two different kinds of software on the market today that make drilling both safer and more efficient: Drilltronics® and DrillScene®. These are on the market through Sekal, an IRIS daughter company. Statoil has recently signed a framework agreement for providing long-term services through DrillScene®.

“As the industry moves into less available territories looking for oil, a tool that actually provides high quality data in real-time significantly improves both cost-efficiency and safety. We believe that this is the future”, states Berg.

REDUCING DETRIMENTAL EFFECTS OF SLUDGE

Safety, including environmental aspects, is an evident part of any undertaking in the industry today. IRIS looks into the possible environmental effects of offshore petroleum activities on bottom living organisms such as scallops, mussels and currently deep-sea coral forming vast reefs on the sea floor off the Norwegian coastline.

“Deep sea corals are of vital importance for life in the deep sea as they build important habitats for so many other organisms. Even though our preliminary findings show no immediate and

severe effects, our research indicates that the sludge can affect several processes like mucus production and polyp activity. The long term consequences of these alterations are still unknown”, explains Chief Scientist for Marine Environment, Thierry Baussant.

Not knowing the environmental effects makes it hard to set the right protection measures.

“This type of research benefits both the environment and the industry,” claims Baussant. “Deep-sea corals are old formations. How deep-sea corals will adapt to a changing world remains unclear but surely a combination of stress from CO2 increase, the fisheries and petroleum activities is putting these important systems under higher pressure”, adds Baussant.

With support from the oil and gas industry, IRIS also aim at developing on-site surveillance methods for corals and biological models to predict the effects of drilling.



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