

Abstracts of company examples:

Acquisition and use of Surface DAS in AkerBP

Bjarte Foseide, Espen Raknes, Per Eivind Dhelie - AkerBP

Aker BP has successfully completed two surface Distributed Acoustic Sensing (DAS) acquisitions and is currently planning a third. The results demonstrate the feasibility of utilizing a telecommunications cable as a seismic sensor for reflection imaging. By conducting an opportunistic DAS acquisition during a conventional 3D survey over a Carbon Capture and Storage (CCS) project, we can begin to evaluate the potential of surface DAS as a cost-effective monitoring tool.

Increasing acquisition efficiency by 50% using hexa-source for 4D surveys

Ross Milne - AkerBP

Aker BP have acquired several 4D trial datasets using a hexa-source configuration to repeat a dual-source baseline survey.

This leads to a 50% increase in productivity, while providing a denser shot carpet for improved imaging.

The short duration between shots with a hexa-source set-up results in blended energy overlapping reservoir events, which poses a risk for 4D fidelity.

We will demonstrate that modern de-blending technology can safely deal with this noise, revealing the signal of interest below.

Despite differences in source configuration, geometry and noise the hexa-source data demonstrate comparable 4D differences to the conventional dual-source data.

Performance and Modelling of a Density-based Autonomous Inflow Control Device

G. Corona, S. Greci, R. Novelen, C. Warren – Halliburton, K. Langaas – AkerBP

Autonomous inflow control devices (AICDs) are used to improve reservoir influx and restrict unwanted fluids for higher oil recovery. A new AICD has been developed to restrict water based on the density of downhole fluids. This is particularly useful in reservoirs where the oil and water have similar viscosities. This presentation presents a summary of the full scale flow performance results at reservoir conditions and modelling to predict the impact of this Density-AICD in well completions under various scenarios.

A.I.M-ing for Innovation: Leveraging Generative AI Technologies to accelerate Exploration

M. Janjua, P.Y Raya - Wintershall Dea

Exploration lifecycles typically involve extensive manual effort in terms of extracting information locked away in massive document databases. Such effort is necessary for activities such as license applications, prospect maturation, and

drilling operations. With emergent Generative AI technologies, it is now possible to reduce lead times in such activities by significant orders of magnitude. At Wintershall Dea, we have developed AIM, a Large Language Model and retrieval augmented generation supported solution, that enables subsurface experts to quickly find information from various subsurface document corpuses using natural language queries. In this presentation, we will present the use case and the technology behind the solution. The presentation will include a live demo.

A/S Norske Shell technology Outlook for Ormen Lange Geophysical Field Monitoring

Egil Syre – A/S Norske Shell

The Ormen Lange field has since its production start-up in 2007 deployed multiple technologies for seabed and reservoir monitoring, including gravity, 3d and 4D seismic, remote data gathering of seabed surveillance and advanced data integration techniques to incorporate geomechanical, gravity and 4D seismic in dynamic models. This presentation will touch upon the technologies used and the technology and innovations that would further improve effective field management.

The open-source software eCalc™ to forecast GHG emissions from oil- and gas installations and to hunt for reduction measures

Margrete Hånes – Vår Equinor

eCalc™ is an open-source software developed in Equinor. The tool calculates forecasts of energy consumption and GHG emissions from oil- and gas installations, based on input from reservoir simulations and eCalc™ models of the process facilities. Every Equinor-operated oil- and gas installation has its eCalc™ model that is being continuously maintained. The first uses of eCalc™ in Equinor was to create short- and long-term forecasts that provided transparency and confidence in numbers. eCalc™ is a cross-disciplinary tool that unites subsurface-, process-, and sustainability engineers in the common effort to reduce GHG emissions and CO₂ intensity. The tool has been used for studying long-term effects of topside measures, including modifications, and is now finally being used in the search for optimal combinations of drainage strategies and topside measures. Examples of combined optimization will be demonstrated.