

# Innovate to Differentiate

*Ocean plug-ins for Petrel allow operators to deploy customized software solutions quicker than ever before.*

## Contributed by Schlumberger Information Solutions

The Schlumberger Ocean Store ([www.ocean.slb.com](http://www.ocean.slb.com)) now offers more than 45 custom Ocean plug-ins for Petrel seismic-to-simulation software.

These plug-ins are created by a community of developers using the Ocean software development framework. The Ocean framework accelerates the development and deployment of software solutions, allowing users to customize workflows to solve specific reservoir challenges in fractured carbonates, deep water, subsalt, and shale gas plays.

What once took months or weeks to develop can now take only days, hours, or even minutes. The Ocean application development framework allows for the immediate deployment of innovation, which means that end users no longer have to wait for the next release of Petrel. Instead, users can work with their own developers to create specific solutions to meet their needs. The Ocean framework allows software engineers to focus on creating new science rather than spending valuable time on tedious infrastructure code.

Several operators have used the Ocean application framework to efficiently create plug-ins and integrate new functions into the Petrel platform. The software development environment offers an open architecture for seamless integration of a company's intellectual property into the Petrel mainstream workflow, from proprietary seismic attributes to inversion

techniques to upscaling for reservoir simulation.

One oil company enabled its proprietary 4-D modeling workflows in Petrel software using the Ocean framework. This capability integrates rock physics evaluations and dynamic simulation results to create theoretical acoustic impedance response results. This allowed the operator to project the ideal date for future 4-D seismic acquisition.

Ocean plug-ins for Petrel are comparable to apps for the iPhone. Similar to how iPhone users download apps to customize their mobile phones based on their specific needs, Petrel users have the ability to download and develop Ocean plug-ins to customize their Petrel experience. The Ocean Store provides the medium for delivery of the plug-ins, similar to the App Store for the iPhone. Geoscientists and reservoir engineers can browse the Ocean Store, purchase and download plug-ins, and effectively extend their Petrel workflows.

Another similarity that Ocean shares with the iPhone is the ecosystem that has evolved around it. Anybody, anywhere in the world has the ability to create an iPhone app. With Ocean, a similar ecosystem has evolved, comprised of software companies, universities, and oil and gas companies. In recent years, the Ocean ecosystem has gained critical mass and now is used by 25 various oil and gas companies as well as 44 software companies and 19 universities throughout the world.

"The Ocean ecosystem facilitates a new approach and a new business model for developing and deploying software in the oil and gas industry. It enables oil and gas companies to



**The Ocean Store already contains over 45 Ocean plug-ins for Petrel, including a wide range of specialist applications. (Image courtesy of Schlumberger)**

differentiate from their peers, which has become an ever-growing need as companies look to solve the tough challenges associated with exploration and development opportunities today," Drew Wharton, Ocean marketing manager, SIS, said. "This ecosystem allows innovation to move from idea to end-user faster than ever before."

Visit Ocean booth 2027, where software companies and universities representing the Ocean ecosystem will be showcasing their plug-in technologies for the Petrel platform, including Rock Deformation Research, SEISQUARE, Geocyber Technology, Blueback Reservoir, Headwave, University of Oklahoma, and Gubkin University. ■