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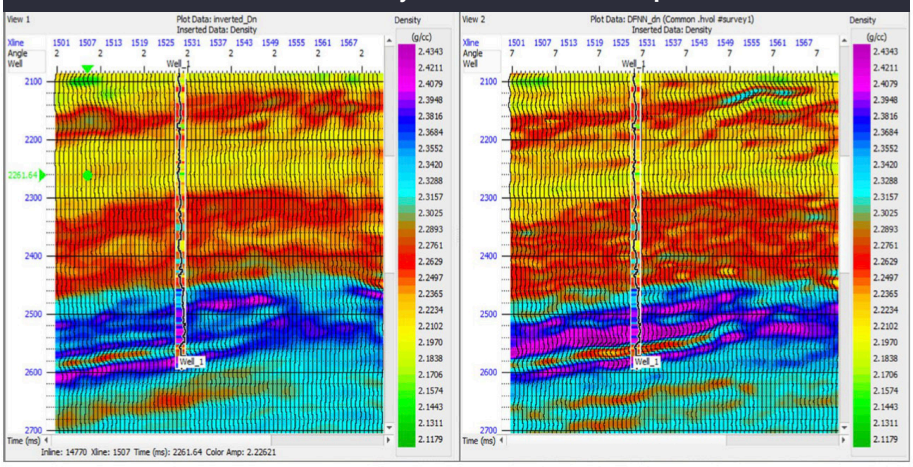
WellGen

Science For Advanced Reservoir Characterization

Part of the GeoSoftware Synthetic Catalog Workflow, **WellGen** links petrophysics, rock physics and supervised machine learning for better seismic reservoir characterization.

Better resolution and continuity with WellGen and deep neural networks



Density output using pre-stack inversion (left) compared with higher resolution and better continuity achieved with WellGen and deep learning (right).

Smarter Neural Networks Using Synthetic Well Data

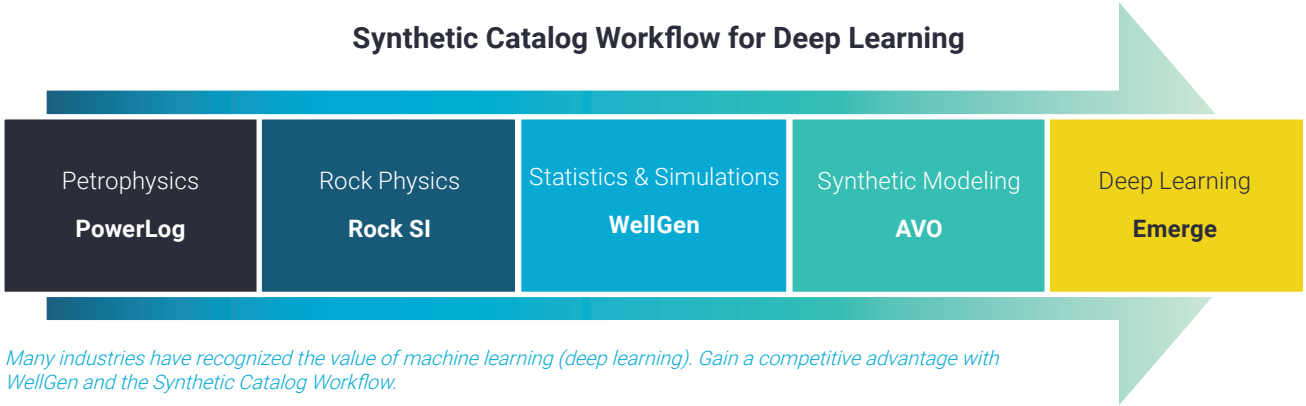
In standard supervised machine learning approaches, the seismic-to-rock property relationship is learned using available data. These methods, particularly deep learning, depend on having enough labelled data to adequately train the neural network.

WellGen overcomes this challenge by generating synthetic data, simulating many pseudo-wells based on existing well statistics and rock physics modelling.

WellGen addresses common machine learning challenges, including:

- Scarcity of wells within the study area
- Difficulty of tying well data with seismic
- High variability in the well curves not depicting geological variations
- Inability to link geological and geophysical observations
- Reservoir complexity that cannot be resolved by inversion alone

Synthetic Catalog Workflow for Deep Learning



Many industries have recognized the value of machine learning (deep learning). Gain a competitive advantage with WellGen and the Synthetic Catalog Workflow.

GeoSoftware™
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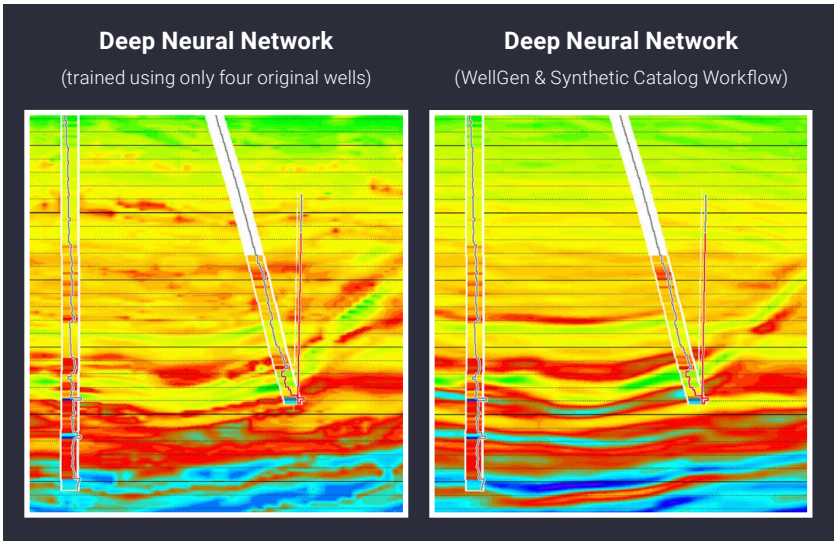
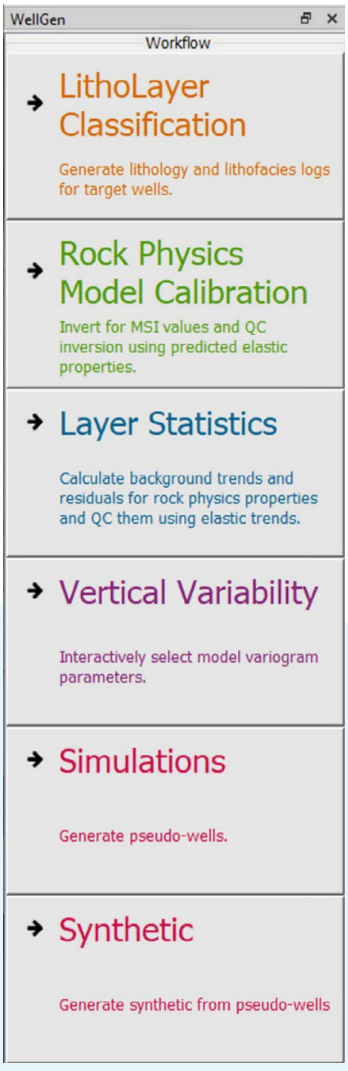
Inversion Benefits With Strata:

- Provides a new method for semi-automated facies classification on well curves
- Generates statistics from well data
- Performs pseudo-well generation based on the rock physics of the original wells
- Improves understanding of the seismic/elastic response of different geologic scenarios
- Delivers better resolution and lateral continuity (as part of the Synthetic Catalog Workflow for reservoir property estimates)



Deep neural network with Synthetic Catalog data predicts P-impedance with greater accuracy and higher lateral continuity.



WellGen gives you a host of options to improve your seismic reservoir characterization. Understand seismic to elastic response, gain more insight into geological variability, create data for deep learning data analysis and more.

TO LEARN MORE, VISIT:
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