

# Aspen SeisEarth

An integrated, multi-survey, regional-to-prospect interpretation and visualization system

Date or Version number



Gold  
Microsoft  
Partner

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# Increase accuracy, reduce risk and improve efficiency of subsurface characterization

Due to the increased complexity of hydrocarbon exploration and production, together with the rapid growth of activity in energy transition sectors (such as CCUS and hydrogen), companies are challenged to gain an accurate understanding of subsurface geology to ensure the safe, productive and economic management of assets. The interpretation of seismic data is a key component in this process. Cutting-edge technologies are needed to extract more information from ever-growing volumes of seismic data.



## CHALLENGES

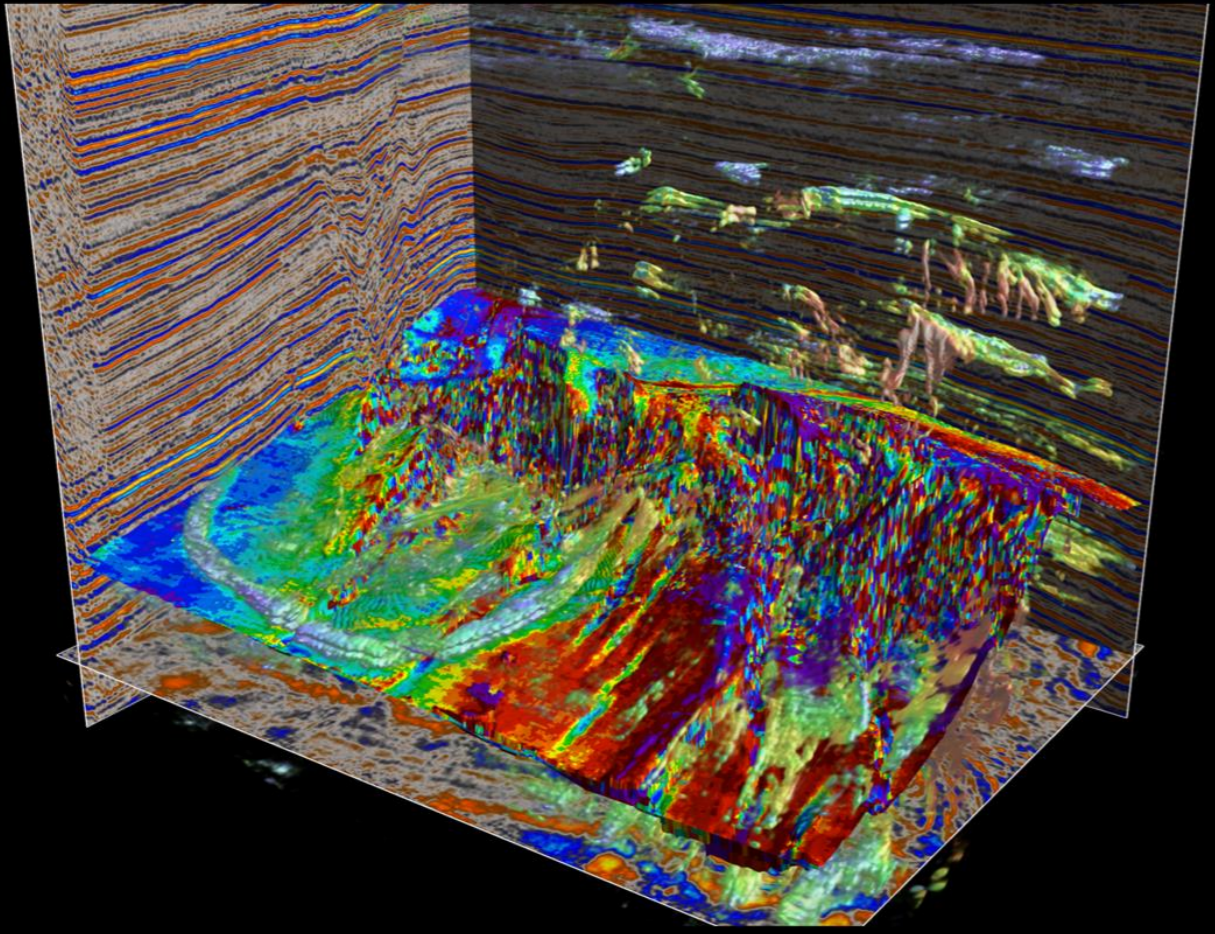
Today's seismic datasets comprise huge amounts of 2D and 3D data: many vintages, attributes, inversion results and prestack data – all of which must be integrated and analyzed to produce a detailed subsurface model, calibrated to well data.

## IDEAL SOLUTION

Enables rapid and detailed structural, stratigraphic and quantitative interpretation in projects with 2D and 3D seismic surveys and well databases, using advanced technologies including machine learning, on an integrated and fully scalable platform.

## DESIRED OUTCOMES

Fast and thorough extraction of well-calibrated geological information from huge volumes of seismic data in order to enhance confidence in exploration production and storage decision-making, today and into the future.



## Aspen SeisEarth™

Aspen SeisEarth is a powerful yet flexible interpretation and visualization system for projects with single or multiple 2D and 3D seismic surveys and well databases. With fully integrated machine learning-based classification workflows, advanced voxel visualization and quantitative seismic interpretation, SeisEarth provides interpreters with a comprehensive, single-platform solution for subsurface interpretation and characterization.

1

### POWERFUL AND EFFICIENT

Aspen SeisEarth is built to deal with very large seismic surveys, providing efficient volume roaming, automatic picking and high levels of interactivity.

2

### INTUITIVE AND COLLABORATIVE

An ergonomic, intuitive user interface with visual integration enables informed, collaborative decision-making.

3

### HIGHLY AUTOMATED AND INTEGRATED

Automated workflows providing unique best-in-class technologies in one interpretation platform; supervised machine learning and deterministic inversion for rock classification allow fast creation of predictive subsurface analyses.

# Aspen Technologies Inc. Aspen SeisEarth & Microsoft Azure

Microsoft Azure enables access to AspenTech's best-in-class interpretation and visualization solutions from anywhere. Access to the latest hardware on the cloud optimizes AspenTech applications and enables data sharing between multiple users, for effective geoscience collaboration.

## Access from anywhere with an Internet connection

Access your data anywhere, anytime, while enjoying the flexibility and scalability of the cloud infrastructure.

## Higher productivity through effective data sharing

Optimize multi-user accessibility and collaboration using Aspen SeisEarth running on the Cloud.

## Support for cost effective Azure blob storage for seismic data

Enable companies' IT departments to efficiently provision data storage.



## Customer success: A Sequence Characterization Workflow in a Core Exploration Area, Vaca Muerta System, Neuquén Basin, Argentina (YPF)

A multi-disciplinary interpretation workflow resulted in the description of four second-order sequences in the Vaca Muerta formation in Argentina, each described in terms of its own architecture, depositional pattern style, internal litho-stratigraphic configuration and seismic signature. After defining the stratigraphic sequence and correlating it with the seismic attributes, it was possible to create a model that matched the geological, well core and production data. These models were used by the exploration team to improve the location of future appraisal wells and prepare development plans.

### YPF Argentina

I use SeisEarth to perform a wide variety of interpretation tasks, including attribute calculation, opacity visualization, multi-3D seismic merge, well path design, flattening, horizon slices, multi-survey visualization, and color palette manipulation. Use of SeisEarth has led to important advances in the exploration of unconventional plays in Argentina.

### Major Oil and Gas Company in Eastern Europe

The integrated analysis of multi-scale geological, geophysical and seismic information using machine learning methods provided a reliable prediction of facies identified from well data. . Based on the results, the customer was able to reduce geological risk during subsequent well placement.

### Petrogal Brasil

The workflow used in this study was both efficient and accurate. We have since used it successfully in three other pre-salt carbonate fields.

# [www.Aspentech.com](http://www.Aspentech.com) **Aspen SeisEarth**

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