# Predict3D 2017.3
## Multi-attribute inversion solution

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# Predict3D[TM]

## Multi-Attribute Inversion Solution

Predict 3D™ is a multi-attribute inversion solution based on spectral decomposition and state-of-the-art optimization techniques developed over the years by Dr. John Castagna of LUMINA. The Predict 3D solution is completely integrated with the GeoGraphix® suite of products, and can also be used in standalone mode. This proprietary approach shows geological details not observable in the conventional seismic data, and allows for more detailed and accurate interpretations than are possible with the input data and conventional inversion methods.  The multi-attribute inversion process predicts rock properties from well logs away from and in between the wells that have been used for correlation, generating property volumes that are invaluable in understanding the character of the reservoir.  This helps understand the nature of the reservoir away from the wells; reducing risk in well planning and field development, especially in thin-bed or shale plays.

## Benefits

**More Informed and Accurate Decisions**
Higher resolution reservoir property volumes help in understanding the distribution of rock properties away from the correlation wells, significantly improving understanding of the reservoir.  All members of the asset team - geologists, geophysicists, and engineers – are better prepared to make timely, informed decisions.

**More Accurate Field Planning, Well Planning, Geosteering and Completions**

The ability to predict reservoir properties away from the wells enables more accurate field and completion planning.  Detailed reservoir property volumes allow geoscientists to plan wells more accurately, select good landing zones for their horizontals, and enable geosteerers to keep the bit in the heart of the sweet spot.

**Ease of Use**

Full integration with GeoGraphix solutions streamlines implementation of the prediction process and brings this capability to the desktop of interpreters and engineers.  Predict 3D has been designed to produce outstanding results and time-effective projects with minimal input from the user.

# Key Features

**Data Loading and Management**

- Direct access to the required well data and seismic data directly from your GeoGraphix projects
- Ability to input 3D seismic data in standard SEG-Y format and well data in ASCII and LAS enables usage in standalone mode or with other platforms
- Resulting volumes can be output directly into GeoGraphix projects or in standard SEG-Y format
- Flexibility to launch Predict 3D directly from GeoGraphix, or run in standalone mode
- Properties calculated in PRIZM can easily be input for prediction throughout the seismic volume

**Multi-Attribute Property Prediction**

- Designed to produce outstanding results while minimizing input from the user
- Calculates multiple seismic attributes from LUMINA's toolkit, and uses multi-attribute analysis to more accurately identify which attributes are useful, minimizing error and improving results
- Predicts input log properties away from the well – Vp, Vs, Rho (Density), TOC, porosity, Shale Content, etc.
- Capable of processing large data volumes in parallel, utilizing multiple cores or clusters effectively
- Built-in quality control views enable users to refine results prior to full execution, saving time and money

# Requirements

### Hardware (Minimum)

- 2.4 GHz 64-bit processor
- 8 GB RAM
- Graphics card with hardware support for DirectX 11

### Hardware (Recommended)

- Quad 3.1 GHz 64-bit Intel class or better
- 32 GB RAM or greater
- Graphics card with hardware support for DirectX 11 and 2GB dedicated VRAM
- Dual 21-inch monitors
- DVD-RW drive.

### Software

- Microsoft® .NET 4.5
- Microsoft® DirectX 11
- MCR 8.2 libraries for Matlab 2013b
- GeoGraphix Discovery 2017.3 is required for integrated mode only

### Operating System(s)

- Windows® 7 Professional x64
- Windows® 7 Enterprise x64
- Windows® 7 Ultimate x64