

# DUG INSIGHT MODULES

DUG Insight is a complete service-solution for interpretation, visualisation, 2D/3D/pre-stack/time-lapse amplitude analysis and rock-property inversion, advanced seismic-data time-processing and depth-imaging, and full waveform inversion (FWI) - including DUG's revolutionary Multi-parameter FWI Imaging.

## DUG INSIGHT BASE

Modern, interactive seismic interpretation and visualisation.

2D / 3D / pre-stack display

Advanced compression for gathers

Amplitude extraction

Arbitrary line navigation

AVA synthetics

Crossplotting

Culture (including shapefiles & KML)

Curve maths

Direct copy between projects

Fault & horizon interpretation

Fault projection

Geological cross-sections

Import & export SEG-Y

Integrated 3D view

Interactive time / depth conversion

Mapping & gridding

Mistie correction (time, phase, amplitude)

Phase rotation

Polygons & fault polygons

Project backup / restore

Project synchronisation

Reassign geometry / scaling headers

RGB & CMY blending

RMO picking

Spectral analysis

Statistical wavelet extraction

Stratigraphic flattening on multiple surfaces

Trace arithmetic

Velocity conversion

View & interpret on image data

Volume manipulations (combine, swap, resample)

Volume maths

Waveform horizon propagation

Well manager tool

Well marker / tops picking

### Supported flexibility

**Acclaimed technical team** providing tailored, **round-the-clock**, same-day support

**Flexible licensing & leasing** inclusive of maintenance, support and upgrades

**Use on DUG HPC Cloud** or deploy on-premise

Multi-user, cross-platform **compatibility**

### Interactive productivity

An interactive project experience with **real-time feedback**

**Parametrise workflows** from hundreds of interactive processes and **view outputs on the fly**

**Prototype & derive** optimal parameters faster — **deliver superior results sooner**

Consistent, **easy-to-use interface**



**FREE TRIAL**  
Always free for students

# DUG Insight Interpretation Modules

**dug** insight

**CHOOSE**

+

Choose DUG Insight with or without any combination of modules to suit your interpretation needs

Explorationist

Gather Attributes

Pore Pressure Prediction

Rock

Lithofluids

## EXPLORATIONIST

Everything you need to take your interpretation to the next level.

- 3D dip & azimuth
- AGC & other gains (for stacks)
- Angle & offset muting of gathers
- Automated multi-horizon propagator
- Band-pass filtering (for stacks)
- Convert gathers between offset & angle
- Geobody detection
- Incoherence, semblance & curvature
- Instantaneous attributes
- Low-frequency model building
- Merge & sculpt volumes
- Spectral balancing & shaping
- Spectral decomposition
- Stacking
- Structurally oriented filtering
- Velocity model building (from checkshots)
- Volume interpolation & extrapolation
- Volume smoothing
- Volumetrics

## GATHER ATTRIBUTES

An indispensable toolkit for analysing and processing image gathers.

- 3D dip & azimuth
- AGC & other gains (stacks & gathers)
- Angle & offset muting of gathers
- AVA stack rotation (EEI equivalent)
- Band-pass filtering (stacks & gathers)
- Convert gathers between offset & angle
- Convolution, deconvolution, fx decon
- Correlation & autocorrelation
- Dip, Q, Cadzow, & k filtering
- Header & trace interpolation
- Intercept & gradient
- NMO corrections

## ROCK

Interactive depth-dependent end-member lithology trend interpretation and stochastic forward modelling.

- AVA stack rotation modelling
- Calculate end-member trends
- Interpret lithologies from well logs
- Quantify variation in elastic properties
- Stochastic forward modelling

## PORE PRESSURE PREDICTION

A complete workflow for interactive geopressure analysis.

- 1D at well locations
- 3D from seismic velocities
- Eaton & Miller methods
- Matthews-Kelly fracture gradient
- Model centroid & fluid buoyancy
- Overburden, pore, & fracture pressures
- Uncertainty simulation
- Velocity picking
- Volume integration
- Volume smoothing

## LITHOFLUIDS

Bayesian-supervised classification scheme for probabilistic lithology and fluid prediction.

- AVA stack rotation modelling
- Bayesian prediction engine
- Lithology / fluid calibration at well locations
- Lithology / fluid prediction from inverted seismic data
- Low-frequency model calibration
- Quantify variation in elastic properties
- Stochastic forward modelling
- Structural geological prior models

# DUG Insight Processing & Imaging Modules

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**BUILD**

+

Build a DUG Insight stack to suit your processing and imaging needs

Time

Time

Time

Time

Depth

Depth

Depth

Advanced

Advanced

MP-FWI Imaging

## TIME

For all your land, marine & OBN time-processing and imaging needs.

3D dip

Adaptive subtraction (least squares, Curvelet)

AGC & other gains

Angle & offset muting of gathers

Automated multi-horizon propagator

Band-pass filtering

Convert gathers between offset & angle

Convolution, deconvolution, fx decon

Correlation & autocorrelation

COV binning / QC view

Cross spread view

CRS conversion

Deblending (DUG Deblend)

Deghosting (DUG Broad)

Signature

Despike

Dip, Q, Cadzow, k, fkk filtering

Direct arrival mute

First break picking

Header & trace interpolation

Hi-res time-domain Radon

HTI velocity tools

Incoherence, semblance & curvature

Instantaneous attributes

Interbed multiple elimination (IME, ISS)

Kirchhoff time migration (VTI, HTI)

Local trace alignment

Low frequency array forming

Moveout corrections (NMO, LMO)

Navigation merge & QC

Near-field-hydrophone (FFS, debubble, signature)

Obliquity application / removal

OBN orientation QC & correction

OBN rotation

OBN tau-pp transform

OBN U/D, D/D deconvolution

P-Z calibration

Partial binning / stacking

Phase rotation

Plane wave dip filter

Polygon mute

Q estimation / conversion / filtering

Radon demultiple

Radon, fk & fx transforms

Re-datum (velocity, seismic)

Real-time SEG-D load

Receiver depth scanner

Receiver motion correction

Regularisation / interpolation (2D, 3D, 4D, 5D)

Residual statics

RMO picking & correction

Sensitivity correction

Short-time Fourier transform

Spectral balancing & shaping

Stacking

Structurally oriented filtering

Surface related multiple elimination (3D SRME)

Surface-consistent amplitudes / statics / deconvolution

Tidal correction

Time tomography

Time-frequency denoise (TFDN)

Time-lapse binning, denoise, matching, shifting, QC

Velocity picking

Volume smoothing, interpolation, extrapolation

Wavelet extractors (Bayesian, statistical)

Wavelet / signal processing (Vibroseis, deghost)

Weighted trace mixing

## DEPTH

DUG's depth imaging workhorse. (Requires the TIME module)

Anisotropy, synthetics

Delta model building

Depth migration (Kirchhoff depth migration, Q-Kirchhoff depth migration)

Depth tomography (reflection, refraction)

Dip fields & attributes

FWI for model building (Vp, source signatures)

Map migration

Ray tracing

Tilted orthorhombic velocity tools

Velocity model (from well checkshots)

Vs & density (from Vp)

## ADVANCED

Advanced depth & least-squares imaging technology. (Requires the DEPTH module)

DUG MP-FWI model-building (Vp, epsilon, Q)

Least-squares Kirchhoff depth migration

Least-squares reverse time migration

LS-Q-Kirchhoff depth migration

LS-Q-reverse time migration

Reverse time migration

## MP-FWI IMAGING

DUG's state of the art technology for processing and imaging. (Requires the ADVANCED module)

DUG MP-FWI Imaging (Vp, 3C reflectivity)

# DUG Insight Data Modules

**dug**insight

**CONNECT**



Connect Data Modules to Interpretation and/or Processing & Imaging

Interpretation and/or  
Processing and Imaging



Petrel Link

Kingdom Reader

## PETREL LINK

Take advantage of DUG Insight's functionality using data directly from Petrel.

2D and 3D horizons

2D and 3D volumes

Copy from DUG Insight

Faults

Synchronised cursor / crosshair

View in / copy to DUG Insight

Wells

## KINGDOM READER

Migrate all your IHS Kingdom+ project data with ease.

2D and 3D horizons

2D and 3D volumes

Faults

View in / copy to DUG Insight

Wells

<sup>†</sup>Mark of IHS, <sup>\*</sup>Mark of Schlumberger

Make your next discovery with DUG Insight today.  
Contact an expert at [support@dug.com](mailto:support@dug.com) to get started or visit [dug.com/insight](http://dug.com/insight) for a well of resources, including user manuals, how-to videos and sample data.

Prioritising  
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productivity

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