dug insight

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, depth-imaging, and full waveform inversion (FWI) — including DUG's revolutionary Elastic Multi-parameter FWI Imaging technology.

Now enhanced with integrated AI and machine learning (AI/ML) capabilities, DUG Insight accelerates interpretation workflows, automates complex analysis, and reveals deeper insights.

DUG INSIGHT BASE

Modern, interactive seismic interpretation and visualisation.

- 2D / 3D / pre-stack display
- Advanced compression for gathers
- Amplitude extraction
- Angle mute & stacking
- 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 & SEG-D
- Integrated 3D view
- Interactive time / depth conversion
- Mapping & gridding
- Mistie correction (time, phase, amplitude)
- Moveout corrections (NMO)
- Navigation merge & QC
- Phase rotation
- Polygons & fault polygons
- Project backup / restore
- Project synchronisation
- Reassign geometry / scaling headers
- RGB & CMY blending
- RMO picking
- SEG-Y cluster export
- 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 flexibilty

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

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CHOOSE

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

- Explorationist
- Pore Pressure Prediction
- Gather Attributes
- QI

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
- Gassmann fluid substitution
- Incoherence, semblance & curvature
- Instantaneous attributes
- Model builder
- 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
- 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
- Super gathers
- Volume integration
- Velocity model (from well checkshots)

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

QI

Absolute and relative pre-stack inversion with full pre-processing, AI/ML-driven lithology prediction, interactive trend interpretation, stochastic modeling and Bayesian classification for probabilistic lithology and fluid analysis.

- Absolute & relative constrained sparse spike inversion
- AI/ML lithology prediction
- Angle & offset muting of gathers
- AVA stack rotation modelling
- Azimuthal NMO scanner
- Bandwidth enhancement
- Bayesian prediction engine
- Calculate end-member trends
- Convert gathers between offset & angle
- Gassmann fluid substitution
- Geobody detection
- Intercept & gradient
- Interpret lithologies from well logs
- Lithology / fluid calibration at well locations
- Lithology / fluid prediction from inverted seismic data
- Local trace alignment
- Low-frequency model building & calibration
- NMO corrections
- Quantify variation in elastic properties
- RMO picking & correction
- Spectral balancing & shaping
- Stochastic forward modelling
- Structural geological prior models
- Super gathers
- Velocity model (from well checkshots)
- Volume integration

DUG Insight Processing & Imaging Modules

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BUILD

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

Time	Time	Time	Time	Time
	Depth	Depth	Depth	Depth
		Advanced	Advanced	Advanced
			aMP-FWI Imaging	aMP-FWI Imaging
				eMP-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)
- Designature
- 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, designature)
- 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

ACOUSTIC MP-FWI IMAGING

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

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

ELASTIC MP-FWI IMAGING

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

- DUG MP-FWI Imaging (Vp, P-impedance, Vp/Vs, density, 3C reflectivity)

DUG Insight Data Modules

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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 Kingdom™ project data with ease.

- 2D and 3D horizons
- 2D and 3D volumes
- Faults
- View in / copy to DUG Insight
- Wells

*Mark of Schlumberger

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

Prioritising geoscience, enabling productivity

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