CMG

Computer Modelling Group LTD (CMG)

CMG is the world's leading independent supplier of dynamic reservoir simulation and production technologies.
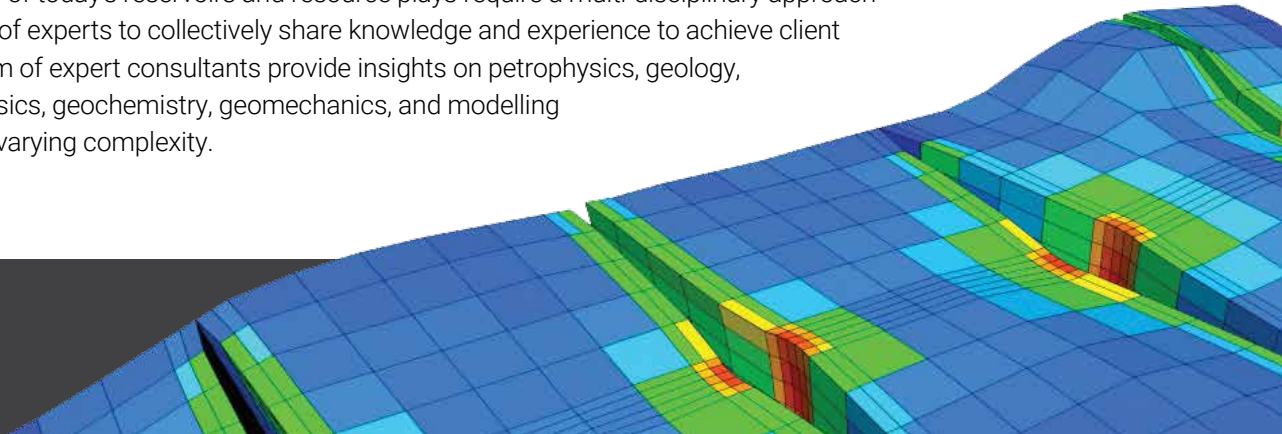
Providing innovative simulation technology and expert consulting solutions, CMG enables energy companies globally to optimize field development plans and assess and implement low-carbon energy technologies for a sustainable and secure energy future. The combination of science and simulation technology with deep industry expertise allows CMG to solve complex problems across the reservoir and production value chain.

BENEFITS OF PREDICTIVE AND COMPARATIVE ANALYSIS THROUGH CMG SIMULATION

| MEET REGULATORY REQUIREMENTS | ADDRESS DECARBONIZATION | REDUCE OPERATING COSTS | DE-RISK PROJECTS | INCREASE PRODUCTION | INCREASE PRODUCTIVITY |

Consulting Expertise

The unique challenges of today's reservoirs and resource plays require a multi-disciplinary approach that leverages a team of experts to collectively share knowledge and experience to achieve client outcomes. CMG's team of expert consultants provide insights on petrophysics, geology, hydrogeology, geophysics, geochemistry, geomechanics, and modelling for energy projects of varying complexity.

CMGL.CA

Intelligent Optimization & Analysis Tool

CMOST™ identifies the best solution for a reservoir by combining advanced statistical analysis, machine learning, and non-biased data interpretation with your engineering expertise. Using the powerful Sensitivity Analysis, History Matching, Optimization, and Uncertainty functionality, CMOST helps to maximize recovery and NPV.

Black-Oil & Unconventional Simulator

IMEX™, the world's fastest black oil reservoir simulator, is used to model primary, secondary, and tertiary oil recovery processes. Use IMEX for screening prospects, setting up pilot designs, monitoring and optimizing field operations, and improving production performance.

Compositional, Unconventional & Advanced Processes Simulator

GEM™ is the world's leading reservoir simulation software for compositional, chemical, and unconventional reservoir modelling. This advanced general Equation-of-State (EoS) compositional simulator accurately replicates the physics and chemistry of what's happening in a reservoir to assist in field optimization and overall recovery.

Thermal & Advanced Processes Simulator

STARS™ is the undisputed industry standard in thermal, chemical EOR, and other advanced processes. The robust geochemical and geomechanics capabilities make STARS the most complete and flexible reservoir simulator available.

Integrated Reservoir & Production Modelling Software

CoFlow™ is the industry's first enterprise solution that allows reservoir and production engineers to collaborate on the same asset. The multi-fidelity, multi-disciplinary, and multi-reservoir capabilities result in superior engineering and economic decisions, reduce the time from concept to field implementation, and optimization of field operations for high stakes assets.

Pre-Processor: Simulation Model-Building

Builder™ is an interactive, intuitive, and easy-to-use interface which enables quick and efficient design and preparation of simulation models for all CMG simulators.

Post-Processor: Visualization & Analysis

Results™ delivers state-of-the-art visualization and analysis capabilities to provide insight into reservoir characteristics, recovery processes, and reservoir performance. Quickly compare simulation outputs with field history data, analyze multiple views in the same window, and personalize the interface to show plots of interest.

Fluid Property Characterization

WinProp™ creates tuned fluid property descriptions for CMG simulators and black oil fluid property data for third-party reservoir simulation software. WinProp's robust calculation engine quickly solves complex calculations enabling users to predict fluid behaviour and to improve understanding of the reservoir recovery process.

Cloud: Fast, Easy & Efficient

Cloud™ is the next revolution in technology and will change how industry conducts business. CMG offers scalable and flexible solutions on a variety of environments.

WHY BLUWARE?

Bluware, a CMG company, enables E&P companies to improve geoscience workflow productivity through cloud and AI solutions so faster and smarter decisions about the subsurface can be achieved while reducing costs and environmental impact.

Energy companies have experienced a longstanding challenge to efficiently access and use secure, reliable, seismic data on a global scale. Bluware technology overcomes the limitations in existing seismic data formats, streamlines data usability in interpretation applications, and put geoscientists in the driver's seat of their interpretation to help exploration teams reduce risk, accelerate decision-making and increase asset productivity.

bluware
a **CMG** company

REVOLUTIONIZE HOW YOU STORE AND USE SEISMIC DATA

Bluware **Volume Data Store (VDS™)** is the powerhouse behind all Bluware solutions. Compress raw and interpreted seismic data sets, enabling them to be adaptable and scalable for your organization to take advantage of fast data access, cost-effective storage, and better visualization workflows.

Immediately Reduce Seismic Data Footprint up to 75%

Eliminate the need to copy and convert data to different formats by only serving one version of your data in the required signal quality for your workflow, yielding **extremely fast data access**.

Industry-Leading Data Compression Supports Zero-Loss

The original SEG-Y data can be compressed to a level of your choice without storing copies, significantly reducing size, all without impacting workflows.

VDS Storage Systems

The VDS architecture is serverless and simple to deploy, so it is highly transportable, reducing hardware and storage costs.

- 🖥 **On-Prem**
- ☁ **Cloud**
- ☁ **Hybrid**

Open Source API & Freeware

Bluware offers OpenVDS™, an open-source API to access VDS, available on The Open Group OSDU™ Data Platform. We also offer OpenVDS+, which has all the capabilities of OpenVDS, plus our industry leading compression technology. Bluware aims to eliminate historical concerns of a vendor-locked format. Regardless of which version of VDS is chosen, your data can all be freely converted back to its original format.

Bluware Engine

The Bluware Engine enables you to access 10x accelerated VDS data performance in your geoscience workflows through our commercial tools FAST and InteractivAI or deployed in your custom software developed by our team.

FAST

RAPIDLY VISUALIZE SEISMIC AND RUN YOUR APPLICATIONS FASTER THAN EVER BEFORE

Use VDS with your existing interpretation applications even if they are not cloud-ready. Realize the value that VDS can deliver without changing your existing applications. Use Bluware **Flexible Access Storage Transcoding (FAST™)** to stream subsurface data from the cloud or on premises to your current applications and workflows.

Don't Disrupt Your Current Ecosystem

- Up to 40-times reduction in data movement and network traffic.
- Access all data from a centralized library.
- Transcode to any file format including SEG-Y, SEP, Paleoscan or ZGY.

ACCELERATE YOUR SEISMIC INTERPRETATION TIME BY 95%

Bluware **InteractivAI™** seismic deep learning interpretation tool integrates with your existing geoscience toolbox to help you deliver a more precise and thorough interpretation of your entire data set in hours versus weeks or months.

With its live collaboration feature, you are in full control of the interpretation process, providing expertise through labeling a small subset of the data (usually less than 1%) and InteractivAI generates 3D predictions on the entire data set every 45 seconds until the model reaches your expert prediction.

Accelerate Interpretation Cycle-Time

Quickly analyze your entire seismic data set at all scales, accelerating the interpretation process. Shift your focus to critical evaluation to maximize prospect generation. Make faster business decisions involving data rooms, bid round preparation, or other time-sensitive interpretation activities.

Flexible and Adaptable

Interpret any geological and geophysical feature such as channels, petroleum system elements, or shallow hazards. Explore a range of different alternative interpretations. Identify features that may have been missed. Now you can capture a more accurate and higher level of detail from your data.

Interpret Your Entire Data Set

Improve interpretation thoroughness to potentially improve drilling success and maximize prospect generation.

Integrates Into Existing Workflows

Integrate the tool into your existing workflows immediately. Flexible deployment is offered on premises or on the cloud.

Maximize Productivity of Geoscience Teams

Work through large datasets as if there were 20 geoscientists working on the same data set instead of one.

Preserve Geoscience Regional Expertise

Capture, preserve, and utilize intelligence from previous projects and experienced interpreters to guide asset teams.

Mitigate Drilling Risks

Get better insights about the subsurface to identify potential drilling locations and hazards and mitigate operational risks more effectively.

Consulting Services

SOLVE YOUR MOST COMPLICATED GEOSCIENCE SOFTWARE CHALLENGES

Bluware provides **Consulting Services** to translate your expertise into software that interfaces smoothly with their existing or emerging workflows. Our software specialists support all areas of the software lifecycle. You provide the requirements and Bluware develops the solutions.

Custom Solutions

We offer comprehensive development services, from initial proof-of-concept to full-scale production, suitable for short-term to multi-year projects.

Product Integration Services

Implement Bluware technology or integrate technologies with OpenVDS APIs or the Bluware Platform.

VDS Certification Services

We build a custom plan and certification services for vendor solutions working with VDS-based technologies.

Accelerated Product Development

Customize Bluware products to your specific needs and gain exclusive access to our solutions.

Research and Development Consulting

Bluware offers research and development services to help E&P teams transform complex challenges into innovative solutions.

Vision and Strategy Consulting

Leverage the expertise and innovative thinking of Bluware to help define your strategic vision.

Learn more at **www.bluware.com**
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