



New chapter for DUG with MIDDLE EAST EXPANSION

Jay Van Berlo, DUG Regional Geoscience Manager – Middle East, discusses the company’s expansion in the region and its revolutionary seismic technology – DUG Elastic MP-FWI Imaging.

Oil Review Middle East (ORME): What prompted DUG to establish a permanent presence in Abu Dhabi, and how has the team grown since?

Jay Van Berlo (JBV): DUG has a long history of providing services to the Middle East – so a permanent presence in Abu Dhabi was a natural step! Our team of experienced

geophysicists and support staff are now operating from our beautiful, newly fitted-out space on Al Maryah Island. It’s a fantastic space and we have plenty of room to grow from here on out.

We are working on a number of large, high-profile projects across the region. Our local presence reinforces our commitment to

Image Credit: DUG

delivering geoscience excellence in step with our clients’ evolving needs.

ORME: How does having an on-the-ground team in Abu Dhabi enhance DUG’s collaboration with clients and partners in the Middle East?

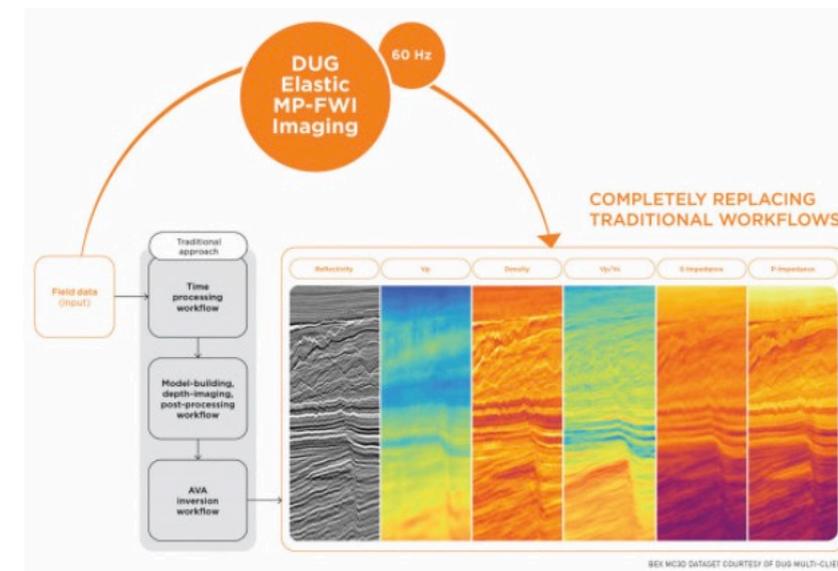
JBV: Being based in Abu Dhabi definitely enables closer collaboration. It means we’re able to work side-by-side with our clients to provide technical support and advice, share insights and tailor solutions. This also helps build relationships and trust while keeping us in tune with the region’s unique subsurface and operational challenges.

Whether it’s processing massive onshore datasets or tackling complex ultra-shallow marine environments, with our growing team here, we’re well-positioned to continue to deliver exceptional services to the region.

ORME: This year DUG made a splash with the introduction of DUG Elastic MP-FWI Imaging. What sets it apart?

JBV: The traditional workflow has been around for a long time. It involves testing and applying dozens of steps such as deghosting, designature, demultiple and regularisation – all designed to overcome the limitations of conventional imaging. However, these steps are complex, subjective and time-consuming due to their serial

Image Credit: DUG



DUG Elastic MP-FWI Imaging.

nature, and rely on many assumptions and approximations. All of these issues impact the output data quality. Compounded with subsequent model-building, post-migration and quantitative interpretation workflows, projects can take months to years to complete.

DUG Elastic MP-FWI Imaging is a unique approach to seismic processing and imaging which turns the traditional paradigm on its head. It literally replaces

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entire workflows. It delivers unsurpassed imaging and high-resolution rock properties from field-data input in a fraction of the time!

ORME: How might DUG’s new elastic imaging technology change the way operators in the Middle East approach subsurface characterisation?

JBV: Seismic data, especially in land and in ultra-shallow marine settings, can often exhibit strong elastic effects that violate the assumptions of acoustic imaging. This is a result of near-surface geological complexity and high-impedance contrasts such as carbonates. These conditions can be very challenging for conventional pre-processing workflows, where stages such as demultiple often require complex modelling and adaptive



The growing DUG team in Abu Dhabi.

subtraction workflows. Demultiple is indeed a significant challenge in this region. But when using the full wavefield with elastic MP-FWI, converted waves and multiples – and that includes both free surface and interbed multiples – are all treated as valuable additional signal, increasing sampling, resolution and constraining the inverted parameters. Multiples are no longer a huge noise problem that require attenuation. They now help to improve the image. It is a win-win!

We have already applied our elastic technology to land seismic datasets in the region. In one example we have successfully resolved subtle structural and

stratigraphic features that were simply not imaged with conventional workflows. The results displayed better illumination, clearer event continuity and superior near-surface detail – all of which directly support decisions around well placement, reservoir

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management and exploration risk.

The same technology is also being applied to ultra-shallow marine datasets, including an ongoing OBN project for a major national oil company in the region. We are now at the dawn of an era where elastic least-squares imaging is a reality – and we look forward to working with our clients in the Middle East to unlock its benefits across larger and even more complex projects!

DUG Elastic MP-FWI Imaging: a transformative breakthrough

- DUG Elastic MP-FWI Imaging is a unique approach to seismic processing and imaging which turns the traditional paradigm on its head, delivering much improved results over decades-old conventional workflows.
- It solves the elastic wave equation to derive both reflectivity and all three (V_p , V_s , density) of the fundamental rock properties from field-data input, removing the assumptions and approximations of conventional workflows.
- The use of the full wavefield and superior physics enables bypassing of processing, model-building, imaging, and AVA inversion workflows, allowing for the derivation of high-resolution Earth models in significantly reduced timeframes. ■

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