



**VERSA**  
INTEGRITY GROUP



## Customer Success Story: Versa Integrity Group

### For Versa Integrity Group, Zetec Phased-Array UT Technology Sets the Standard for Complex DM Weld Inspections



“When we write procedures for DM weld inspections and other complex tasks, under the qualifying equipment, we include the capabilities of DYNARAY®, UltraVision®, and TOPAZ®. Everybody in the industry knows this is the setup you have to have in order to compete in the upper echelon of ultrasonics.”

- Chad Ivy,  
*Regional Advanced Operations Manager  
for Versa Integrity Group*

One of the most challenging ultrasonic technology (UT) inspections in the oil and gas business involves dissimilar-metal (DM) welds. Joining materials with different metallurgical properties, grain alignments, acoustic characteristics, geometries, and other attributes can produce flaws that are hard to identify or detect, even with phased array UT.

“DM weld inspections are a huge priority for our clients because they can have a big impact on decisions about uptime, code compliance, and safety,” says Chad Ivy, Regional Advanced Operations Manager for Versa Integrity Group. “Having clean, clear ultrasonic data on the screen, in the moment, lets clients make those important decisions with confidence.”

Based in Houston, Versa Integrity Group has more than 800 engineers, API inspectors, and NDT technicians working from 15 offices across the central Gulf Coast. Ivy says Zetec phased array UT instruments, probes, and software play a crucial role in the way the company collaborates with customers and competes for high-end inspection work.

## Advanced data processing

“We have a setup that really is the standard for dealing with dissimilar metals,” Ivy says. “In terms of efficiency and probability of detection, nothing on the market comes close to the ultrasound technology we use.”

It starts with Zetec’s DYNARAY phased array UT instrument, Ivy’s tool of choice for advanced data processing and analysis.

Optimized for inspections requiring high probe element counts like dual (2-D) matrix array probe assemblies, long sound paths, low-frequency probes, and complex geometries, DYNARAY can significantly reduce inspection time and deliver reliable detection and accurate sizing of circumferential and axial flaws. It supports up to 256 simultaneously active elements, providing improved data quality with 16-bit amplitude resolution, superior focusing, and higher pulser voltage. It can also handle files up to 20 GB, which can translate to fewer scans performed.

DYNARAY is driven by Zetec’s UltraVision 3 software, which manages UT signal acquisition, real-time imaging of these signals, and provides online as well as offline advanced data analysis. The integrated 3D work environment allows Ivy to create customized inspection configurations and perform ray tracing with coverage mapping to determine detection capability and inspection coverage. The software is intuitive and helps technicians easily design and simulate an inspection.

“If you’re scanning anything large with dissimilar metals and multiple velocity changes, DYNARAY and UltraVision are the way to go,” Ivy says. “We’re able to put inspection data into a 3D imaging format with a level of resolution that’s so clear and detailed it allows the client to recognize flaws without the understanding of ultrasonics that we have as technicians. We can put the image on a big display for clients and walk them through it. The system really helps us communicate the issues we’re seeing and establish our value as a service provider.”

## Portable performance

For data collection in the field, Versa uses Zetec’s TOPAZ32 fully integrated phased array UT instrument.

TOPAZ32 is a rugged, portable UT solution that’s unique in terms of functionality and flexibility: it can perform on-board inspection setup, data acquisition, data analysis, and generate detailed reports without the need for an external computer.

Its high data throughput, multi-core processor, and embedded solid-state drive improves the acquisition speed compared to existing platforms, and with two independent, conventional UT channels, technicians can perform TOFD inspections combined with linear or 2-D phased array probe configurations.

TOPAZ32 comes embedded with Zetec's UltraVision TOUCH software and features up to 32 active channels on up to 128 element probes, and supports 2-D matrix array probes as well as custom phased array probes and wedges.

Technicians can virtually position the probes on the specimen to ensure maximum volumetric coverage, Ivy says, and let UltraVision TOUCH guide them through these processes step by step. The software can display multiple views of the proposed inspection in one Scan Plan-type image.

"This is a major benefit in terms of technician productivity and overall job satisfaction," Ivy says. "We're giving our technicians the tools and technology they need to be productive and maximize their abilities while delivering the best possible service to our clients."

## The upper echelon of ultrasonics

In a highly complex business like oil and gas, Ivy says the ability to handle the most demanding inspection applications is critical.

"We've been innovating since the day we started, and we've always tried to be at the forefront of technology," Ivy says. "Zetec's phased array UT technology puts us right there. When we write procedures for DM weld inspections and other complex tasks, under the qualifying equipment, we include the capabilities of DYNARAY, UltraVision, and TOPAZ. Everybody in the industry knows this is the setup you have to have in order to compete in the upper echelon of ultrasonics."



Zetec holds ISO 9001  
and ISO/IEC 17025  
certifications



Zetec, Inc.  
8226 Bracken Pl. SE | Suite 100  
Snoqualmie, WA 98065  
Toll Free: 800.643.1771  
P: 425.974.2700