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## Vessel monitoring can minimize downtime

By Dale K. DuPont on NOVEMBER 30, 2017 [SHARE](#) [f](#) [t](#) [in](#) [✉](#)



Maintenance engineering expert Richard Merhige spoke at the International WorkBoat Show on vessel monitoring. Kirk Moore photo.

Breakdowns happen but are not inevitable, and a little vessel monitoring with the right tools can keep downtime to a minimum and better arm you for yard visits.

“You’ll pick up on problems before they happen,” said Richard Merhige, president, Advanced Mechanical Enterprises. Merhige, speaking at the International WorkBoat Show in New Orleans Wednesday, pointed out that only 17% of the world’s merchant fleet does planned maintenance and of that only 13% does condition monitoring.



Maintenance expert Richard Merhige shows some of the tools of the trade for vessel monitoring. Kirk Moore photo.

“Vibration analysis is the foundation of condition monitoring,” he said, helping to reduce equipment and labor costs and increase safety and revenue. Along with infrared thermography and ultrasonic analysis, operators can detect everything from bad bearings to misalignments and thus avoid potential problems and go into drydock much better prepared. “Close to 90% of the problems we find are related to misalignment.”

With ultrasonic equipment, for example, “you can physically hear a bad bearing,” Merhige said. “They’ve basically taken the screwdriver to the bearing concept and made it digital.” And it can be used by the crew without a lot of training. Portable and easy to operate, infrared thermography cameras can highlight machinery temperatures.

Other valuable technologies include: oil analysis, which can catch engine bearing failures; shaft torque measurements, which determine how well a propulsion system is operating; and diesel engine monitors that measure each cylinder and pick up leaks.



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"The whole goal of this is to optimize your yard period," Merhige said. "I've seen gearbox failures right out of a drydock."

These technologies are really a fantastic way to avoid downtime, he said. They can keep an old boat running well.

Vibration analyzers can cost \$12,000 to \$15,000 including the software, while ultrasonic analysis equipment can go for about \$10,000, he said. Operators can optimize maintenance at a minimum cost and make back their investment by not having breakdowns.

#### ABOUT THE AUTHOR

##### Dale K. DuPont

Dale DuPont has been a correspondent for WorkBoat since 1998. She has worked at daily and weekly newspapers in Texas, Maryland, and most recently as a business writer and editor at The Miami Herald, covering the cruise, marine and other industries. She and her husband once owned a weekly newspaper in Cooperstown, N.Y., across the alley from the Baseball Hall of Fame. A South Florida resident, she enjoys sailing on Biscayne Bay, except in hurricane season.

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