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# Innovative way to control fuel costs

In the current sluggish economy, vessel operators are aggressively looking for ways to reduce operating costs in search of elusive profitability. To that end, several US fleet operators have turned to a new satellite-based reporting system that helps them manage fuel usage and monitor at-sea performance of crews and vessels.

Nautical Control Solutions (NCS), based in Houston, Texas, has developed a satellite fuel monitoring system called FuelTrax®, which uses the Iridium satellite network to transmit real-time data on fuel consumption from the vessels to the home office.

One FuelTrax user, United Ocean Services (UOS) reports that it has reduced fuel costs by as much as 10 per cent since equipping four tugs with the Iridium-based monitoring system. Another marine transportation company, Andrie Inc, installed FuelTrax last summer on one tug and is planning to install the system on two more vessels after seeing the benefits.

The onboard FuelTrax system uses GPS technology to gauge a vessel's speed over ground and makes recommendations for optimum throttle settings based on a vessel's load and operating conditions including wind, waves and currents. Using the system's unique monitoring features, BestSpeed™ and BestEconomy™, captains can adjust throttle settings in real time to reduce fuel consumption without sacrificing speed – and save significant amounts of fuel.

The system also collects and transmits fuel usage data to a shore-based web server over Iridium's worldwide satellite network. This enables company officials at the home office to track a vessel's location, fuel-burn rate and engine performance using an internet browser regardless of where the ship is operating.

The data provides baseline information on

fuel usage that is helping ship owners improve fleet operating efficiencies that go well beyond savings on fuel bills, according to Robert Blakeney, NCS business development manager.

He said: "The FuelTrax system, along with our FuelNet™ Web-based data reporting portal, is designed to help ship owners monitor vessel operations and crew behaviour.

"If an owner understands more clearly how his vessels burn fuel, he can bid his work more aggressively and get more business, or his profit margins will be higher because he knows exactly how his vessels are behaving and using fuel."

"Over the long term, not only are they saving fuel, they're also achieving better vessel optimisation, scheduling and tracking, and they're getting cost savings by extending the maintenance routine on engines and propulsion systems because they're not being run as hard," Blakeney added. "That's a huge step forward for the industry."

Because most marine transportation vessels operate beyond the range of shore-based wireless networks, NCS designed its FuelTrax and FuelNet solutions around the Iridium 9601 short-burst data (SBD)



FuelTrax is currently used on Andrie Inc's tug barge **Karen Andrie/ Endeavour** on time-sensitive deliveries to achieve best speed.

modem. "Iridium was the natural choice for us because its low-earth orbiting satellite network gives us global coverage, even around the poles, and offers reliable, real-time transmission of data anywhere a ship needs to operate," said Blakeney.

In addition, Iridium's two-way data link allows NCS to send instructions to an onboard FuelTrax unit to change its reporting intervals, request an immediate readout of vessel engine conditions or issue an alarm to a user's handheld device. That feature is particularly useful in alerting a captain or the vessel's owner of a possible fuel leak or fuel theft.

"If a tank appears to be using fuel at a greater rate than the engines can consume, or if FuelTrax's reporting data reveals that a vessel was using fuel when it actually was at the dock, then the owner knows there's a problem," Blakeney said.

"SBD is the fastest-growing business area for Iridium," said Patrick Shay, vice president and general manager of Iridium's data division. "Service partners like NCS are

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leveraging Iridium's global coverage, high network quality and low latency for a wide range of remote monitoring applications."

Officials with Andrie and UOS say the FuelTrax system has been an effective tool to help them optimise fuel usage and improve fleet operations.

"FuelTrax has given us a high-tech and very accurate tool to manage our fuel consumption," said Richard Paris, Andrie's director of engineering. "It's helped us to identify ways to conserve fuel."

Andrie, headquartered in Muskegon, Michigan, transports asphalt and cement products across the Great Lakes. The company currently is using FuelTrax on the tug barge *Karen Andrie/Endeavour* on time-sensitive deliveries to achieve best speed. That is the point at which FuelTrax senses when the engines have reached optimum rev/min speed based on the vessel's load and operating conditions, including wind, waves and currents. Ramping up rev/mins at that point would not increase speed, but only burn more fuel.

"After a certain point, you're not buying higher speed, you're simply buying more fuel," Paris said.

"The FuelTrax wheelhouse display will recommend that the captain pull back on the throttle to a point where he can still make contract speed but save as much fuel as possible."

Tampa-based UOS, the ocean transportation arm of the United Maritime Group, is a tug barge operator that primarily hauls commodities across the Gulf Coast between Tampa and the Mississippi River. The vessels also make occasional runs to ports in East and West Africa and Central and South America. To date, UOS has used FuelTrax on its tugs primarily as a way to achieve best economy through better throttle controls.

"We've been using FuelTrax when we're not schedule-driven to try to find the sweet spot for the most economic speed, and we've had success with that," said Jay Hess, director of operations for UOS. On certain vessels operating under specific service conditions, UOS has reduced fuel consumption without compromising operations, Hess said.

The FuelTrax software has helped UOS track fuel usage over time, enabling the company to do a cost-benefit analysis for fuel savings versus extra voyage time. It also has supplied the company with accurate data on fuel consumption, useful in developing future budgets and creating fuel models.

"When fuel prices are up, that's the number one cost of our daily operations, and FuelTrax is a very useful tool to assist us in controlling those costs," Hess said. "It's also helping us achieve other operating efficiencies, including vessel optimisation, scheduling and tracking."

**New for broadband**

**Furuno launched its Furuno Broadband Service Center (FBS) at the company's subsidiary, Furuno Danmark A/S, in Copenhagen, in November.**

FBS will be responsible for the development, expansion and maintenance of Furuno's maritime satellite communication activities including marketing, support and traffic accounting for maritime satellite communication systems including Inmarsat and VSAT systems.

It will focus on the core areas vital for reliable maritime broadband connectivity including: tailored system solutions, least cost routing, airtime, compression utilities for optimisation of bandwidth, trench settings, white and black listing of web pages, onboard GSM solutions, etc. FBS will offer consulting, educational seminars and sales support.

**Service office open**

**Radio Holland Group opened a new service office in Port Elizabeth, South Africa on January 4<sup>th</sup>.**

It is the 63<sup>rd</sup> office in the Radio Holland Global Network and the sixth in South Africa. Radio Holland in Port Elizabeth will provide sales and service of marine electronics in the Eastern Cape.



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