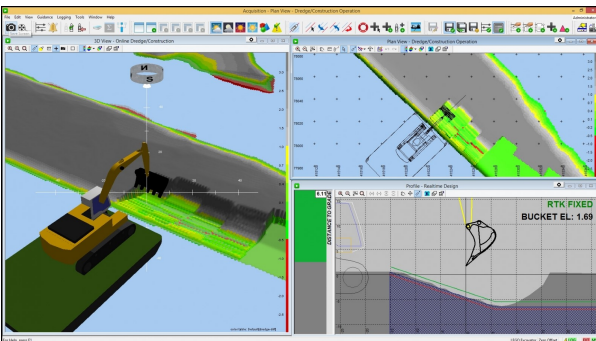


Trimble and Teledyne Join Forces to Market Marine Construction Software

BY JUDITH POWERS



This screen shot of the working software depicts the real-time view of the excavator working, aided by constant updates from multibeam sonar views of the bottom from a sonar head mounted on the corner of the barge.

Trimble and Teledyne Marine announced on March 7 that Teledyne had rebranded its PDS (Ports Dredging Surveying) software with the Trimble name, to be marketed as a hardware and software package through Trimble's Marine construction dealers.

On that day, Scott Crozier, marketing director of Trimble's Civil Engineering and Construction Division, and William Egan, vice president of Global Imaging Sales & Marketing at Teledyne Marine, met at Trimble's display at the CONEXPO-CONAGG show in Las Vegas to sign the agreement.

The software is expected to be available in the second quarter of this year, marketed as "Trimble Marine Construction, powered by Teledyne."

The newly-named software will be modular, based on specific marine construction applications such as dredging, hydrographic surveying, cable lay applications, monopile placements, breakwater construction, offshore wind farms, pipe lay monitoring, rock dumping, excavating, barge management and more.

Dredging applications include hydraulic excavators, wire cranes, bucket dredges, underwater plows, trailing suction hopper dredges (TSHD) and cutter suction dredges. The software provides real-time visualization of the dredge head or excavator bucket, showing the operator the actual versus the planned surface in 3D, profile and long-section views.

A unique feature is the Teledyne BlueView MotionScan, a multibeam scanner on a pan and tilt mounting that monitors the dredge cut in progress, or material placement, giving the operator a real-time view of high and low spots that can be remedied before moving the dredge.

The software provides real-time data gathering, computation, display and logs. The data can be displayed either graphically or alphanumerically. It has options to verify the data, and to remove anomalies and outliers either manually or automatically. The clean data can be presented in the form of models, tables, files, volumes, nautical charts or reports.

Lou Nash is president and founder of Measutronics Corporation, and represents Trimble marine positioning products as well as a range of other high-quality hydrographic survey products. Keeping a close eye on the industry, he saw a demonstration of Teledyne's newly acquired BlueView Technologies products at a user conference nearly two years ago, and realized that the BlueView MotionScan BV5000 3D scanning sonar could help his customers by adding 2D and 3D real-time sonar monitoring of marine construction activities, and enabling a machine operator to identify and remove high and low spots prior to moving the construction barge.

"We've had a number of these systems in place, using the new scanning techniques for some 18 months or so now by contractors that have kept it under wraps as a competitive advantage," Nash said. His idea was to incorporate the Teledyne Marine components into the robust positioning hardware solutions offered by Trimble, making it available to all customers.

"In typical multibeam sonar applications, the mapping function requires the boat to move. In construction, the barge is stationary, and the pan and tilt provides the motion," Nash explained. Post-dredge surveys of dredging contracts are known as "as built" surveys," Nash said. He called the MotionScan an "as building" survey, a real-time, ongoing view of the dredged bottom.

"The goal is to keep (the barge) moving forward," he said, eliminating spot re-dredging after the project's end.

When Nash presented his idea to Trimble, the company was already looking to develop an alternative to its in-house HYDROpro software, which doesn't have 3D capability. At the same time, Teledyne planned to expand the market for its PDS software, and the two companies entered talks about collaborating on the software.

Nash said, "Teledyne Marine and Trimble are both behemoths within their respective industries: marine imaging and heavy civil construction, respectively, and known for high levels of quality. Building on the strengths of our manufacturing partners was a calculated business decision. Once we'd worked our way through the initial integration issues, it was a simple matter of presenting the resultant guidance and as-building solutions to our sales managers. They're bright guys - they connected the dots from there."

Scott Crozier stated that Trimble's machine positioning technologies combined with Teledyne's subsurface sensing and marine software will provide an ideal solution for marine construction contractors.

"Trimble Marine Construction Software extends our solutions to include real-time 3D visualization of the dredge head or bucket with support for scanning sonars to provide the actual as-built surface for more efficient operations," Crozier said.

"We wanted to create a paradigm shift out of the box, joining our marine construction solutions to Trimble's customer base. The software is easy to integrate and operate with both companies' sensor suites above and below the water, all in real-time," said Ted Germann, head of sales for Teledyne Marine Americas Imaging Group.

"The Marine construction software allows the addition of applications that can be added at any time to utilize Teledyne's suite of acoustic sensors, primarily underwater imaging sonars. MotionScan is one application in Marine Construction that adds to the scalability of the product," said Germann. "The two companies are growing in the same space, and the software is the connector of the two companies," he said.

"By creating an equal partnership in the software, we are leveraging the technology to create a competitive advantage, allowing us to estimate more exactly our return on investment," William Egan said.

At Trimble's CONEXPO/CONAGG booth, the display featuring the new software was popular, with personnel from Trimble's international offices on hand to explain the system. A computer screen from a test project using the software showed a backhoe

excavator digging in a channel where the design template with under- and over-dredge lines were displayed. Angle sensors on the crane arm and behind the bucket feed data to the operator's console, joined by positioning from GPS antennas.

Trimble offers flexible, high-performance positioning systems for marine construction on both simple and complex projects. Systems include both hardware and software, and can be easily integrated into third-party systems. The portfolio includes marine information systems, antennas, radios, receivers and inertial positioning systems. The company is based in Sunnyvale, California.

Teledyne Marine is a group of subsea technology companies that are part of Teledyne Technologies Incorporated, based in Thousand Oaks, California. Through acquisitions and collaboration over the past 10 years, Teledyne Marine has brought imaging, instruments, interconnect, seismic and vehicle technology together. Each Teledyne Marine company is a leader in its respective field, providing products backed by service and support.

Measutronics was founded by Lou Nash in 1997 as a Trimble Navigation, Ltd., a survey grade GPS training, and support company. It became a Trimble dealer in 2001, concentrating on marine positioning, guidance and U/W imaging system integration, including sales, training and support. With a customer base encompassing marine contractors, dredgers, hydrographers, USN, USCG, USACE and more, the company continues to add top-of-the-line systems to the equipment it sells. It is based in Lakeland, Florida, and Vancouver, Washington.