Survey Boat Demonstration Adds to Educational Opportunities at WODCON

BY JUDITH POWERS

Lou Nash brought the Measutronics 24-foot demonstration vessel *A Nickel More* to Miami to demonstrate integrated hydrographic survey systems at WODCN XXI in June.

Moored in the Miami River just outside the back doors of the conference hotel, the boat was in action every day of the conference, taking attendees for short cruises.

On the boat, an Applanix POS MV Wavemaster combines GPS positions and heading with angular and acceleration data from an IMU that provides accurate position and orientation even if GPS signal is lost.

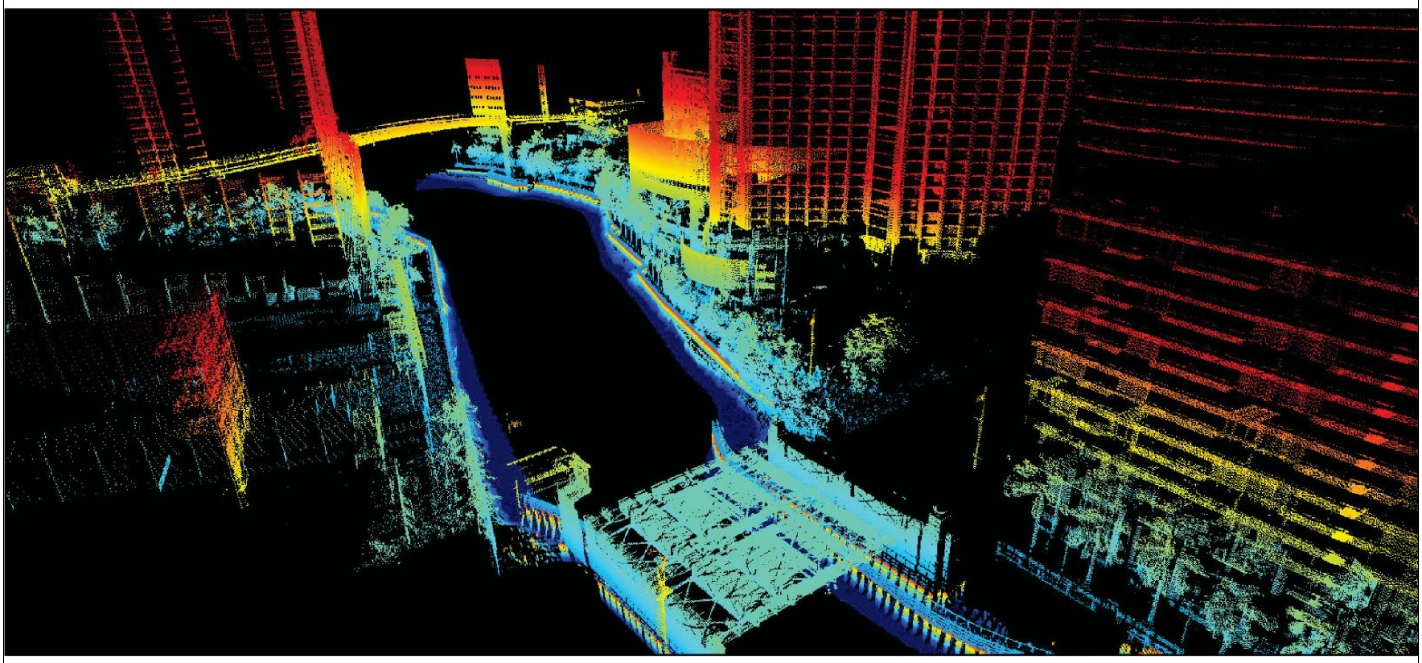
"We use a Teledyne BlueView BV1350 multibeam profiler sonar mounted to a ROS Pan-and-Tilt mechanism for on-the-fly adjustable fields of view," said Keith Dixon of Measutronics. "To scan above the water surface, we use Renishaw's Merlin LiDAR scanner."

Lou Nash explained that the pan-and-tilt mount for the multibeam sonar is the "secret ingredient" that provides great "as-building" functionality to the system. It allows the operator to aim the sonar at a given location to observe real-time placement or removal of material without the vessel motion required of a traditional multibeam system.

The survey boat A Nickel More belonging to Measutronics demonstrates hydrographic survey equipment on the Miami River in front of the conference hotel.

The LiDAR collects data above the water surface and combines with the multibeam sonar using Teledyne's PDS MotionScan software to produce a geo-referenced, motion-compensated 3D point cloud.

Jonathon White of Renishaw said "MERLIN is the first LiDAR scanner designed and built for marine surveying. Its 250-meter range and centimeter accuracy, coupled with the adjustable mount, produces reliable and repeatable surveying and allows integration with existing sensors and software already on the vessel."



The combined 360-degree below and above water image collected by the sonar and LiDAR were displayed in real time on the computer screen during the demonstration survey.