

# Florida Specifier

Practical Information For Environmental Professionals

## Mobile scanning expected to alter the survey business landscape

By MELORA GRATTAN

**A**n emerging technology that uses laser scanners to collect survey data while driving could sound the death knell for more conventional data collection methods that include standing alongside busy roadsides with tripods or taking expensive, aerial photographs from helicopters.

"This is truly the most amazing thing I've seen," said Tim VanGelder, PLS, a regional survey manager with McKim & Creed who has been in the surveying profession for almost 30 years.

"It blows me away that the technology can do what it does at sixty miles per hour." In fact, VanGelder said he believes that mobile scanning technology even tops the introduction of GPS to surveying.

McKim & Creed believes so strongly in the technology, which has only started being applied to projects in the past two or three years, that it invested \$1 million in equipment and created its own trademarked mobile data collection system, VanGelder said.

This system, known as MoDaC, includes two GPS units, two 3-D laser scanners, an inertial movement unit to compensate for movement and two 5-megapixel cameras, which are all mounted on an SUV or a rail truck.

The system also features the OpTech LYNX™ mobile scanner to collect more data.

The laser scanners utilize a beam of light that takes measurements and operates at extremely high speeds, VanGelder said. "There are other bells and whistles, but the (components) all work in concert with each other. So you can drive down the road and it will collect everything it sees within less than one-half of an inch of tolerance. This is survey-grade information for design purposes."

The technology is the "perfect tool" for projects such as interstate widening, rail, airport or route type mapping work, he said.

Other possible applications could include GIS mapping for database collection so that municipalities can pinpoint exactly where all their water facilities are and the location of each individual valve, for example.

The main selling point, he said, is that the scanner can collect more information faster and for less money.

The firm conducted a pilot project about a year ago in Burlington, NC, where data was collected on a stretch of Interstate 85. The traditional static method of scanning took two crews seven days to collect versus less than half a day for the mobile scanning method.

The data between the two methods and

map data were all compared. The results prompted North Carolina transportation officials to award the firm five highway projects and one rail project "right out of the box," said VanGelder, who oversees seven offices in NC.

Since then, he and other McKim & Creed employees have been conducting presentations and demonstrations to consultants and transportation officials in other states in the Southeast, including Florida and Georgia.

The firm does a lot of work for the Florida Department of Transportation in the Tampa and Sarasota areas, he said. "I think it is just a matter of time before everyone embraces the technology."

In addition to enhancing safety and cutting down on time, the method is more cost-effective. There is a 30 to 40 percent cost savings when compared to using traditional helicopter photogrammetry to collect data.

Moreover, the data is denser and will lead to increased accuracy to define road surfaces and topography with greater detail, VanGelder said.

The firm estimates that it will recoup its investment in the technology within three to four years. "It's another tool to help us (and them) finish projects faster and better."

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