

The use of high definition surveying is growing in mass transit projects, including railway and related facilities—*image courtesy Nave Newell.*

SCANNING

Dodges the Economic Storm

While it doesn't guarantee success, adopting laser scanning in your survey business can bear fruit in good times and bad for many reasons.

By Geoff Jacobs

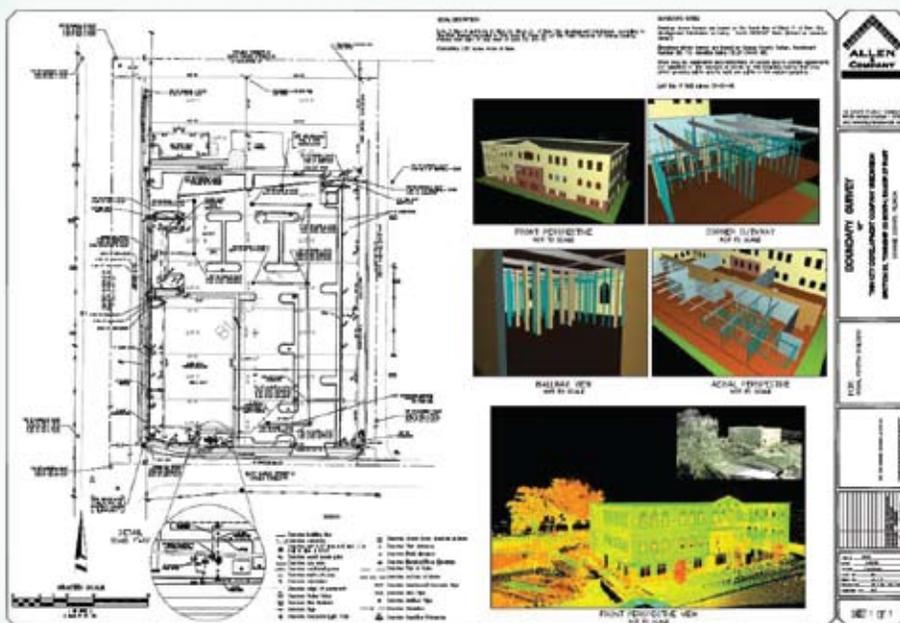
Given the generally difficult times for the surveying industry in the United States and elsewhere, it's interesting to note that scanning activity for survey organizations is largely dodging the brunt of the current economic storm. This article gives examples and provides insights as to why this seg-

ment is doing relatively well. It also provides guidance on how organizations not yet involved in scanning can take advantage of it today, including paths that involve minimal risk.

Diversification Pays

Just as today's financial headlines implore individual investors to maintain diversity in their portfolios to offset major negative swings in one area with havens in another, the same argument can be made in the surveying business. Many surveying organizations had all or most of their eggs in the residential construction basket, riding the growth wave in this area over the last several years. Others were more diversified, with activities in GIS, commercial construction, transportation and infrastructure, industrial, and even forensic markets.

Where does high-definition surveying fit into this mix? For one thing, laser scanning has generally been used very little for traditional single-family residential and land development. Key reasons: a) it's not suited for production stake-out and b) it's line-of-sight to the surface being surveyed, so vegetation can deter using it efficiently for terrain mapping. However, because it's line-of-sight, laser scanning has its sweet spot in hardscape and structures, i.e. in survey-



▲ Laser scanning is also increasingly used for commercial site and building surveys —*image courtesy Allen & Company.*

ing assets already developed and to be modified, expanded, or better operated and maintained.

High-definition surveying is mostly used today in:

- commercial development and construction
- infrastructure and transportation (roads, rail, airports, harbors, communications)
- hardscape and re-development
- buildings and campuses
- plant and industrial
 - oil and gas
 - refineries
 - chemical plants
 - power generation and distribution
 - discrete manufacturing and processing
- forensics
- heritage archive and restoration
- mining

To be sure, some of the above markets are also being hit by the down economy, though not nearly as hard as residential construction. However, many of the above segments are either relatively unaffected or actually growing.

Many Success Stories

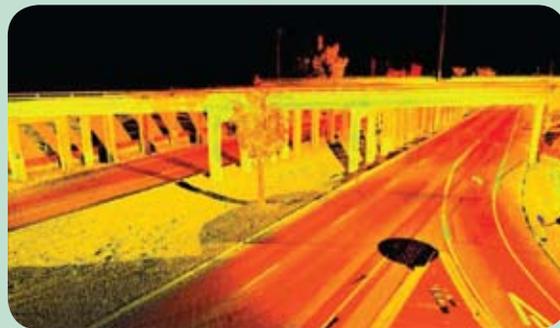
There are many examples of the current relative success of those involved in scanning. I see it in reports coming from specific organizations and in scanning industry-related activities and reports. I had the opportunity to interview a large number of laser scanning users a few months ago to see how they were doing with respect to the overall economy. I also organized and conducted a user conference for one of the vendors in the laser scanning products industry. This involved interviewing several dozen users. Here are some examples from these activities:

The owner of a 14-person survey firm in Tennessee told attendees at an October conference that his survey business for 2008 was on track for record revenues and profits. He said that if he did not have high-definition surveying in his company's portfolio, his business would have likely faced a 30-percent reduction in revenues due to the residential construction slump. However, with laser scanning in his tool kit along with the skills to use and market it effectively, his firm was generating significant new rev-

enue from surveying buildings, facilities, and plants.

Another small civil/survey firm from California reported at the same October conference that scanning-related revenues for 2008 were on target to match the same record revenues for this portion of their business for 2007. The speaker said he had to undertake new marketing activities and approaches to achieve this in 2008, but his company was solidly on track. One key to their success was actively subcontracting scanning services to other organizations that had not yet invested in the technology. He noted that in this win-win situation, his new client could market the benefits of high-definition surveys to their own clients while they simultaneously learned about the technology from the scanning-capable organization they subcontracted.

Yet another firm, a *large surveying and mapping firm in Florida*, reported that though their overall surveying business had taken a major hit from the regional downturn in housing development, their laser-scanning-related activities were very strong, up considerably from 2007.

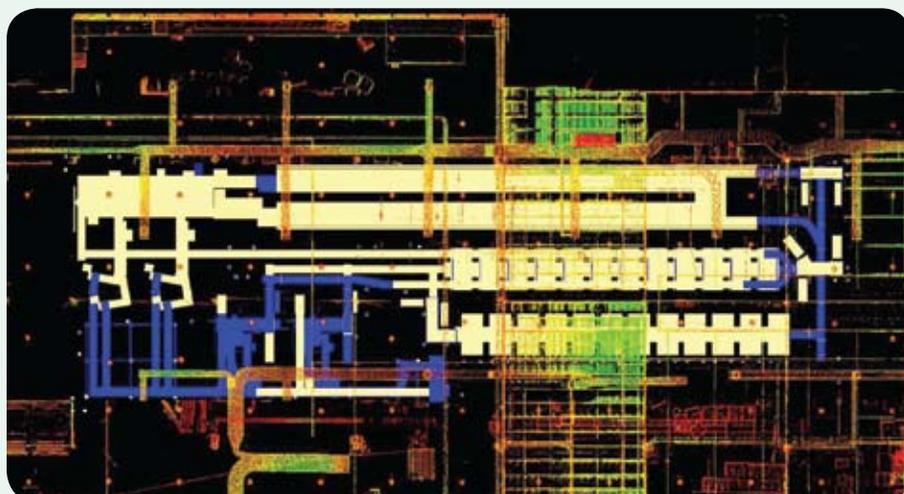


▲ Diamond West Engineering in CA has increasingly contracted its laser scanning services to other consulting firms, such as this road and bridge survey for VA Consulting—*image courtesy Diamond West Engineering.*



▲ Business remains strong for 3D Laser Imaging in AZ, a one-person laser scanning business that focuses on the growing power generation and distribution industry—*image courtesy 3D Imaging.*

A one-person scanning services principal from Arizona reported that his business was booming, largely due to the high level of activity in the power generation and distribution area and the great fit of scanning for this industry. He said



▲ Based in TN, The RLS group has used high-definition surveying to expand their business to include building, facility, and plant surveys—*image courtesy The RLS Group.*

business was so good over the last year that he literally did zero marketing of his services.

Yet another head of surveying for a large, multi-office *civil/survey firm* told me his company was able to use scanning to help shift the focus of one key office from residential construction to transportation projects.

In my observations, I see strong use of scanning in the energy market. Although oil prices have temporarily dropped, everyone sees strong ongoing demand in this sector. Likewise for the power industry. The nuclear business is very strong, and spending continues strong for coal- and oil-based power generation plants that have to produce power more cleanly and increase operating efficiencies. The rail industry is another one on the up-tick, and scanning is also a great fit here. Virtually all scanning practitioners in these segments are reporting strong business.

The use of scanning in forensics continues to grow, and the economy has virtually no impact here. Although no one hopes for such things, there are still plenty of bad traffic accidents, violent crimes scenes, man-made and natural accidents, etc., and high-definition surveying is on the sharp uptake in this segment. Another factor weighing in is much higher awareness of the technology in the forensics world thanks to its regular appearance on television crime shows.

Operational Efficiency, New Clients, and Added Value

Many survey companies with scanning capabilities tell me they are using scanning more often to take advantage of its field productivity. It gives them the ability to do the same amount of work or more with fewer staff.

Likewise, they report that having high-definition surveying capabilities makes it easier to get an audience with prospective new clients. This is especially true for civil/survey firms where it can otherwise be difficult to attract new engineering clients. Another factor I hear mentioned often is that high-definition surveying helps keep service prices at fair levels, as many clients recognize

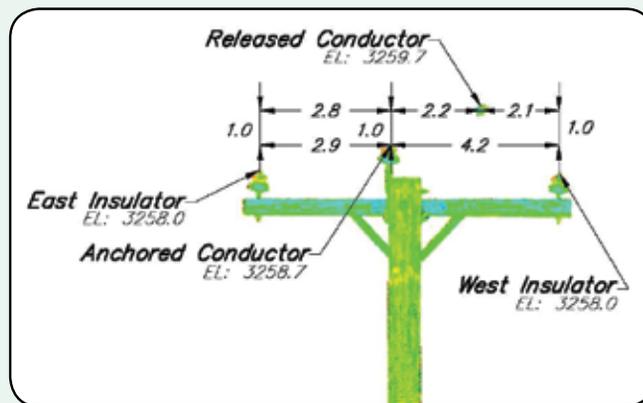
scanning's added-value benefits.

Even if the level of external business was flat compared to one year ago, the adoption of laser scanning is on a steady increase. This is due to many factors (ref. *Professional Surveyor Magazine* June and July 2007), but the technology is still far below its saturation point in the market. More clients require high-definition surveys, and the cost of deploying the technology continues to drop faster than that of competing technologies. It's becoming easier to use at every level, and the market is continually learning about the cost-benefits of the technology from service providers and other peer clients.

So, while the total number of projects that are candidates for scanning may be staying relatively flat overall or even slightly declining in some segments, the adoption of the technology is still on the rise. As a result, the scanning portion of organizations involved in the technology are fairing well, despite today's troubled economy.

Industry Reports

Just as individual investors look at key reports about consumer spending,



▲ This laser scan of the top of a power pole was used in a wildfire forensics investigation to help win a major settlement—*image courtesy CBC Surveys*

etc., it's also possible to look at recent reports coming in from the laser scanning industry. From my perch, I can share industry-related observations. The first is based on an annual user conference held at the end of October 2008 by my company (*Professional Surveyor Magazine*, December 2008). While reports about attendance at many recent conferences generally cite decreases from

prior years, we reported a 10-percent *increase* in the scanning portion of our 2008 user conference over the 2007 one.

Another report from my company: Unit sales of laser scanners for 2008 are actually above those for 2007. To be sure, growth rates for 2008 over 2007 are not as high as for 2007 versus 2006, but reports of growth in any segment today are nevertheless reassuring. Another bellwether to watch will be the attendance reports for the SPAR conference to be held at the end of March 2009, as many consider this the main "laser scanning industry" conference and trade show.

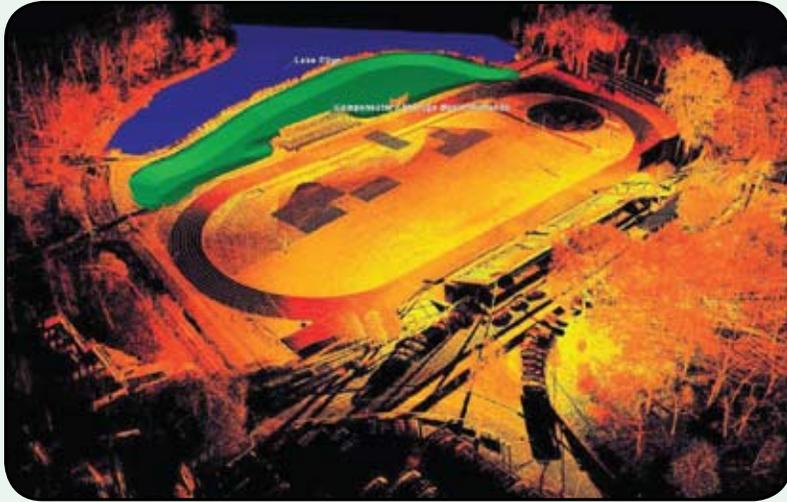
Get Involved with Minimal Risk

Many organizations acquiring laser scanners today are doing so as a means of diversifying. Some organizations see a potentially extended slump in residential development and don't want to wait for the rebound. One thing keeping the scanner acquisition path clear in the United States is that financing/leasing funds continue to be available and accessible for this type of investment. Acquiring a scanner, software, and training does not automatically guarantee success, as many other success factors exist, but this path continues to remain an option. However, this is not the only option.

In today's cautious environment, the least risky path to getting into the technology is by outsourcing it from someone who has already invested in and mastered it. Although you probably already know which firms in your area or market offer high-definition surveying services, your best source of this information should be your local scanner and scanning software vendor/dealer.

They not only know who has what, they also know who is good at what, and they should be able to point you to at least a couple of good outsourcing options. There are hundreds of scanning service providers in the United States today.

Some organizations are reluctant to outsource because they worry they might introduce a competitor to their client. However, today's scanning serv-



▲ High-definition surveys of school buildings and facilities are a sweet spot for the technology—*image courtesy Jacob & Hefner Associates.*

ice providers are eager to provide this type of subcontracting, and the vast majority are ethical about the end-client relationship. A scanning service provider knows it's good overall for every scanning project to go smoothly, and they know other organizations will eventually add the technology to their tool kit at some point anyhow, so most see this as a good fit.

Other low-risk options (*Professional Surveyor Magazine*, "Laser Scanning Capabilities, Ways to Get There," March 2005) include renting scanners and software or buying just the software, getting trained on it, and then renting a scanner for projects as they arise.

ing. But they did see an opportunity to diversify into a technology that will grow for many years. Today, many are reaping the benefits of those prior bets. Organizations not yet taking advantage of the technology have several engagement options available to them—including low-risk paths—to move forward and take advantage of the benefits of offering this service to their clients. ▼

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What about the New Administration?

One of president-elect Barack Obama's early proposals involves massive investment in rehabilitating and improving U.S. infrastructure, including a special focus on updating schools and campuses: in other words, *massive redevelopment of the already built environment*, a sweet spot for high-definition surveying. Another big initiative looks to be energy, with emphasis on decreasing U.S. dependence on foreign sources and focusing on greener technologies. As noted above, the energy and power industry are also sweet spots for laser scanning.

Many of those involved in laser scanning technology are weathering the current economic storm well. In hindsight, I doubt that few of these organizations actually saw the current economic situation coming at the time they decided to get into scanning.