

# Scanning For The Future

**GKS develops a method for surveying the inside of your facility with more accuracy than ever before.**

This is not your old man's plant measuring device. In fact, according to GKS (a division of Laser Design Inc.), "terrestrial laser scanning is a ground-based technique for collecting high-density 3D geospatial data."



The LS-880 laser scanner has a range of up to 80 meters per scan, with a linearity error of only 3 mm. According to GKS, the applications of the system are basically limitless.

Despite the fact that this sounds like something you'd need a degree in astrophysics to understand, it's not quite so complicated—especially given that GKS' roots are in a time-tested concepts like quality and efficiency.

### Next Top Model

According to LS Faro Mobile Scanning Specialist for GKS, Tim Simpson, terrestrial laser scanning is a spin-off of photogrammetry, a more basic concept behind surveying. "Photogrammetry was very time consuming and labor-intensive," Simpson says. "It's basically taking two pictures of one object or area from two different angles. It might take hundreds of pictures to capture an area."

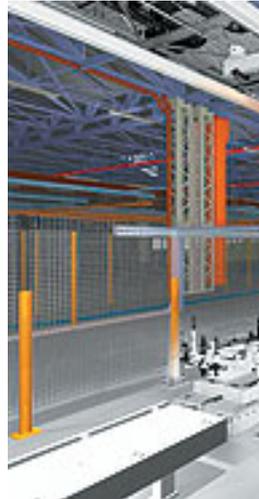
For GKS, the photogrammetry method was archaic, especially when the needs of most facilities included having the ability to monitor architecture and conditions with precise accuracy. GKS recently began offering its terrestrial laser scanning technology worldwide after acquiring a top-of-the-line Faro LS-880 terrestrial laser scanner, and hiring a specialized engineer dedicated solely to this application. Basically, using the highly accurate survey scan data generated with terrestrial laser scanning, engineers and designers can create CAD models of actual site

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conditions by processing the scan data into universally usable CAD models.



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### New Blueprints

The benefits of this technology cover several tenets: not only do inspection and inventory become more accessible, but reverse engineering applications have been found to save huge amounts of time. For example, explains Steve DeRemer, general manager of the GKS Michigan region and its new terrestrial scanning business unit, “when blueprints of an old structure are missing or outdated due to repeated modeling, the LS-880 scanner can produce data to accurately retrofit machinery to an existing space, or document the space to plan for new remodeling,” he says. “Having scan data that is so accurate makes planning and retrofitting fixtures and machines to a manufacturing or power-producing site much easier and less expensive.”

### A Creative Mind

Simpson explains other interesting ways in which this technology is being put to use: “There are many reasons to have the service performed, depending on the industry. Virtual walk through and modeling are probably the most useful applications,” he says. “The nuclear industry likes to use the scanning in order to create CAD models that can then be used as walk-through virtual training aids to reduce time crews spend in high contamination areas.”

In addition, says Simpson, “the petro-chemical industry will use it as an asset management tool, as well as a modeling and blue-printing tool. If they are going to do a retrofit or an upgrade, then we can help them find any clearance issues within a space, based on isometric drawings of the proposed work. This can help reduce costs from delays in construction and reduce downtime. The uses are virtually endless; with a little imagination, it can be used in any industry.”

### Time Management

For a manufacturer to scan an entire facility, the time expenditure really depends on the size and complexity of the area, according to Simpson. “We have scanned large areas—around two acres—of oil refineries in a couple of weeks. This was more complex, with multiple levels of piping and very tall towers.” A less complex and very open facility might take as little as a couple of days.

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The idea is that, once this information is obtained, something like a renovation project or a lean process implementation can be more accurately executed: the terrestrial laser scanners can survey the site more quickly and more inexpensively than manual survey techniques, creating extremely accurate models from which to work.

According to GKS, the ensuing projects take less time to complete, the work is of better quality, and the cost and risk of execution go down. Also, due to the accuracy of the data, better documentation of existing locales leads to improved visualization of proposed projects, so public and governmental buy-ins could become easier for companies to obtain.

### Maximizing Options

The scanning service is often valuable in “one time-projects where the customers can’t justify buying and learning a new system and data processing software,” says DeRemer.

Despite the fact that scanning with the LS-880 is approximately 100 times faster than conventional scanners, the project might necessitate some interruptions in work flow. “Typically, we like to have the area clear, with no movement,” says Simpson. “It might entail scanning during an off-shift, or when they have a scheduled shutdown.”

*For more information, visit [www.gks3d.com](http://www.gks3d.com) [1]*

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