

From Startup to Success Part 1: Datum Metrology Prospers with FARO® Vantage Laser Trackers

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VANTAGE^E

Simplified Workflows and Improved Features Are Key to Managing Growth

In this two-part series, we examine the successes achieved by Datum Metrology by choosing FARO® Vantage Laser Trackers, paired with BuildIT Software for metrology services such as jig building and bond tooling. This installment, Part 1, focuses on the hardware use case.

Datum Metrology LLC (DM) is a metrology service provider specializing in jig building and bond tooling for various industries, including automotive, aerospace, naval, and nuclear energy. With decades of combined experience in multiple skilled trade backgrounds, the DM team provides something of a one-stop-shop metrology solution. The company's depth and breadth of experience give it a unique way of seeing new jobs.

"Instead of looking at a way to, say, inspect a job, we actually plan the job ahead because we can see the whole picture of the build," says Jason Sobieck, owner of Datum Metrology. "When we go into a customer's facility, instead of just jumping in and randomly measuring something, we know what we're going to systematically do next. Being able to do that helps us move a lot quicker than many of our competitors."

Because DM's current specialty involves working on large jigs requiring extremely tight tolerances, along with very large bond tools, FARO Laser Trackers and BuildIT metrology software are the company's measurement tools of choice.

"Laser trackers make the most sense for us," explains Sobieck. "I think they're the most versatile tool in the metrology world right now. With a tracker, I have the ability to check something two times the length of a football field, or I can check something the size of a penny – and very accurately."

Sobieck and his business partner, Chad Fortune, had many years of experience with laser trackers when they decided to form their own company. At a casual barbeque, the two former co-workers began kidding around about starting their own company. Apparently, it went from a joke to something more serious rather quickly. They chose to invest in two Vantage Laser Trackers from FARO right off the bat.

"I've used pretty much every type and flavor of laser tracker out there throughout my career. Honestly, FARO has always been the most reliable brand as far as I'm concerned. Their Vantage Laser Tracker is pretty much what I consider to be the workhorse. It's also extremely portable, and the cost was where we needed it to be. I couldn't be happier with the purchase."

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The Right Tool for the Job

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With 160 m (525 ft) of spherical working volume, the FARO Vantage^S and Vantage^E series have reinvented high-accuracy, large-volume measurement. The Vantage provides tremendous value in a complete laser-tracking solution that offers portability, accuracy, and great shop-floor durability.

“We bought two Vantage lasers and hit the ground running,” says Sobieck. “A few weeks after the trackers showed up, we started moving at an insane pace, and it hasn’t stopped yet.”

With success came growth, and the DM team found themselves in need of another tracker.

“We wanted another FARO Laser Tracker,” explains Sobieck. “So we selected the Vantage^E because we already had two long-range Vantage trackers.”

“Before having the Vantage tracker, wherever I traveled I’d be taking a van full of equipment,” explains Sobieck. “Or if I was flying, I’d have to ship the equipment there prior to me ever hopping on an airplane. With the Vantage^E, my entire rig consists of one case for the Vantage; a tripod case, which is basically the size of a golf bag; and my laptop. It’s carry-on luggage for the most part.”

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Portability

“The Vantage^E is probably the most portable tracker I’ve ever touched,” says Sobieck. “With the ability to work through WiFi, plus hot-swap the battery, it’s a night-and-day difference compared to a lot of other options out there.”

Laser trackers normally require a master control unit (MCU) in a separate box as big as the tracker itself. For DM, that poses logistical problems, since their work as a service provider is inevitably conducted at their customers’ facilities.

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The fact that the MCU is built into the Vantage body also eliminates the cables that would connect the two.

“Many times you’ll find yourself in confined areas with a lot of obstacles,” says Sobieck. “If you’re moving the tracker from one area to another within those obstacles, you take the risk of snagging the cable on something, maybe even

dropping the tracker or ripping a cable out. The Vantage’s integrated MCU takes that risk right out of the picture.”



Chad Fortune of Datum Metrology using a Vantage^E Laser Tracker to measure jig and tooling fixtures at a client’s site.

Versatility

“I like the fact that you can use mobile applications to control the tracker from a distance,” says Sobieck. “If I’m up on a 30 or 50 ft-tall jig assembly, I can use remote controls or target gestures.”

FARO’s patent-pending RemoteControls feature enhances workflow by allowing a user to control the movements and other functions of the Vantage^S or Vantage^E with a mobile phone or tablet, or even gesturing with a target.

For enhanced portability and convenience, measurements can be taken with the improved WiFi, which supports faster connection time, greater range, and allows the Vantage to act as a WiFi access point. WiFi and wired Ethernet are both active, enabling connection with a PC and a wireless device simultaneously.

Making Sense of the Data

With a data output rate of 1,000 points per second, the Vantage^S and Vantage^E provide feedback for high-speed motion control and high-density scanning, making them ideal for automated applications. The raw data, however, is only as useful as the software used to render it. When looking at software to complete his FARO tracker system, Sobieck already had ideas.

After researching various options, Sobieck settled on a BuildIT software package.

Return on Investment

“We haven’t really gotten into any type of ROI detail yet, to be honest, because we’re flying around just trying to keep up with everything,” admits Sobieck. “One thing that I can tell you is we’ll probably end up knocking about 20 percent off the time it takes to see ROI compared to the rest of my equipment. A 20 percent increase in ROI is significant for me.”

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Laser tracker technology also presents ROI in the form of its positive effect on customer perception.

“We’re getting a lot of attention out here in the Detroit area, for sure,” says Sobieck. “Some clients hear about us from a friend who says they know a guy who can come out to their facility and check things out. We show up with a laser tracker, and they’re mind-boggled by the whole thing, because a lot of people in my area are more used to your traditional CMM machine. They really pick our brains on it. At the end of the day, when they see what it can do, their minds are pretty much blown.”

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