

LIDAR USA ACHIEVES GREATER LOCATION ACCURACY ON THE GROUND AND IN THE AIR WITH HONEYWELL IMU

Honeywell's HG4930 MEMS inertial measurement unit improves location accuracy for LiDAR USA and its surveying and mapping customers.

Case Study

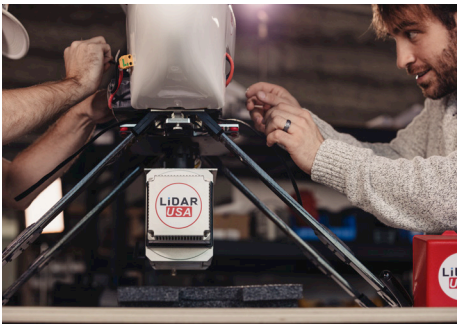
**JEFF FAGERMAN, CEO,
FOUNDER, LIDAR USA**

"We don't need a million-dollar INS. We need an inertial measurement unit that gets the job done and Honeywell's HG4930 does just that. It's light weight, easy to work with and it's our preferred choice. It gives you high-end performance without a high-end price tag."

Honeywell

OVERVIEW

LiDAR USA integrates and manufactures high-performance LiDAR systems and mapping software on unmanned aerial vehicles (UAVs) and ground vehicles that are used for surveying and mapping. When looking for a high-performance and cost-efficient inertial measurement unit to pair with its wide range of offerings, finding a scalable and proven solution to meet their customers' needs was paramount. After extensive testing and customer feedback, LiDAR USA chose Honeywell's HG4930 MEMS inertial measurement unit.



BACKGROUND

LiDAR USA is more than a well-known manufacturer of light detection and ranging (LiDAR) systems and 3D mapping equipment; it's a family-run business led and built by the father-son team, Jeff and Daniel Fagerman.

Before starting LiDAR USA in 1999, Jeff spent more than a decade at an engineering equipment manufacturer in Huntsville, Alabama, where he put his graduate degree in photogrammetry to work as a surveyor.

Now, more than 20 years later, LiDAR USA has built a reputation for producing portable, high-quality LiDAR systems that are used by customers around the world.



The lightweight design of LiDAR USA products is one of their key differentiators and one of the reasons the team is mindful when choosing their inertial measurement unit.

When it comes to most 3D mapping components, portability usually comes at a premium and can often mean a degradation in performance. LiDAR USA, however, wanted to keep offering high-quality systems at an affordable price. To do that, they needed to find the right suppliers that could accommodate their growing customer requirements.



"Most of our systems weigh five kilograms or less making it easy to carry them in a backpack and light enough to mount them to your car, motorcycle, boat or UAV without losing performance.

Portability is important to us and that's why we kept reducing the overall size and weight of our systems."

— JEFF FAGERMAN

QUICK FACTS

Honeywell Solution

- HG4930 MEMS Inertial Measurement Unit

Customer

- Name: LiDAR USA
- Location: Hartselle, AL
- Industry: LiDAR
- Website: <https://www.lidarusa.com>

Customer Results

- Improved location accuracy in dense forests, highways, bridges and urban areas
- Reduced cost to be able to provide an affordable option to LiDAR USA customers
- Delivered scalable solution for multiple LiDAR systems

Why LiDAR USA Chose Honeywell

- Highly-accurate and compact IMU at a great value
- Exceeds performance specifications and is easy to implement across different LiDAR systems
- Customer support and application engineering guidance during integration

SOLUTION

LiDAR USA's answer was to implement Honeywell's HG4930 MEMS inertial measurement unit in its LiDAR systems.

The HG4930 was found to be the most competitive in overall value when comparing size, weight, price and performance, and its lightweight and rugged design helps customers improve the speed and maneuverability of their UAVs.

In addition, the innate location accuracy enabled by the HG4930 helps customers who are using LiDAR USA to create mobile maps from a ground-based vehicle.

"We tested the daylights out of several different configurations from many different companies. We were able to test the HG4930 alongside four or five other inertial measurement units, and it didn't take long for us to notice that it outperformed the competition and gave us exactly what we need," said Jeff Fagerman.

"There's a sweet spot in there that gives us the right price-performance ratio,



while meeting our size requirements. The HG4930 fits perfectly in that space, and that's why we chose Honeywell. It performs to the advertised specifications and it exceeds our customers' needs," said Daniel Fagerman.

For a small business like LiDAR USA, finding the right company that offered support through customer integration and setup was also a deciding factor. Fortunately, the Honeywell HGuide team was there to help every step of the way.



CUSTOMER BENEFIT

The proven reliability and dependability of the HG4930 captured LIDAR USA's attention, but what sold them was Honeywell's customer service. Unlike other large suppliers, Honeywell paid attention to what LIDAR USA needed in an IMU and worked cross-functionally to help them implement it into their various offerings.



"We work with a lot of multi-million dollar companies, and most of them won't listen to anything; you have zero influence. You can't get them to change a knob or a cable—Honeywell wants to listen."

This open line of communication has been the real difference maker in LIDAR USA's partnership with Honeywell.

Jeff Fagerman continues, "The product lines are good and I like working with the people."

"It was quite painless once we decided to bite the bullet and go with Honeywell. They are constantly checking in with us to make sure that we've got everything we need," said Daniel Fagerman.

Built on their shared commitment to customer service and product excellence, Honeywell and LIDAR USA have a partnership that will continue to benefit customers in surveying and mapping for years to come.