



Vision Engineering Solutions (VES) boasts decades of experience designing, building and testing advanced electro-optical sensors and data collection systems for defense, aerospace and industrial applications. We spoke with Steve Testa Director, Commercial Systems with VES to learn more about the company.



Steve Testa
Director, Commercial Systems
Vision Engineering Solutions

Pleora: Can you tell us a bit about Vision Engineering Solutions?

VES: We are a highly specialized business that designs off-the-shelf and custom solutions for aerospace-related electro-optical data capture. Our products and services, including laser remote sensing, scientific imaging, precision tracking system design, modeling and simulation, software engineering, and data analysis, provide customers with full-motion video, high-quality imagery, and scientific and engineering analysis that they use to track and evaluate performance of their end-application. We're based in central Florida, with a main office in the Central Florida Research Park in Orlando, and a field office at the Kennedy Space Center on Merritt Island. We're also a client company in the University of Central Florida Business Incubator Program.

Why do customers choose VES?

Our key people average over 20 years of experience collecting and analyzing electro-optical sensor data. Unlike other sensor designers, we are also sensor users. We offer highly specialized optical and photonic data recording and analysis solutions for aerospace customers, as well as optical systems design and custom software design for a variety of other markets, including defense and industrial applications. Many of the projects are done in partnership with the end-customer, and we're willing to explore innovative techniques and integrate new strategies to solve problems.

What makes your technology unique?

We support all aspects of sensor design, from specification and design to build, testing, and deployment. Our advanced imaging and sensing products for real-time video object tracking deliver the performance required for the most complex and challenging aerospace applications. For example, we provide precise high-resolution video collection for aircraft and high-speed projectiles used in the aerospace sciences. Depending on the application, the video may be used for closed loop process control or mechanical tracking. We designed a custom laser imaging system for NASA that was used to track and monitor the Space Shuttle during takeoff. Other customers use our imaging system to track the flight path of mortars and make adjustment based on environmental effects.

Company Profile

Company: Vision Engineering Solutions (VES)

Technology: Electro-optical sensor and data collection

Established: 2012

Sector: Defense, aerospace and industrial

Customers: Military, government, universities, research facilities

Pleora Product: iPORT™ External Frame Grabbers

Website: <http://visionengineered.com/>



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What's the role of video in your solution?

Video is a vital component of our imaging applications, and we apply flexible approaches to video collection and analysis as it relates to aerospace applications. When a rocket is tested, for example, tracking mount engineers and technicians start predefined trajectories for the initial moments of flight. Based on rocket engine performance, prevailing winds and weather patterns, VES tracking mount operators apply trajectory corrections to obtain clear and accurate video in the visible and infrared spectral regimes. We then analyze the video to identify trends, patterns, and anomalies.

Why did you choose Pleora as part of your solution?

As you can imagine, the cameras and sensors that we employ are highly specialized. Most of our applications rely on a combination of LVDS and analog cameras feeding video and data back to a processing platform. We were seeking a solution that would allow us to retain our investments in cameras and processing equipment, while evolving towards an integrated network solution. Our research led us to Pleora's external frame grabbers and Ethernet as a potential solution, and the company's reliability, track record, and reputation confirmed our decision.



How does Pleora support your design requirements?

There are a few important areas. The flexible and longer-run cables provide a much simpler solution. Standardizing on Pleora GigE video interfaces also speeds design time and simplifies implementation and maintenance. It's relatively straightforward "plug-in" performance at the camera and computer to convert the images to a common GigE platform, versus spending R&D effort on work-around solutions to integrate different approaches. Reduced system cost is also a factor. We offer off-the-shelf products, as well as custom designs, and the ability to eliminate the persistent cost of an LVDS or analog frame grabber helps ensure we remain competitive with other companies' solutions.

And what about customer requirements?

From a performance perspective, our customers and our analysts require high-quality video with the ability to record large volumes of uncompressed image data without losing video quality. Low latency is important in our dynamic environment. Pleora's solutions transfer high-resolution, real-time video with high reliability and low, consistent latency.

Imaging and sensing products from VES help designers track performance in aerospace applications, including the NASA Space Shuttle and mortars. Pleora's iPORT External Frame Grabbers convert real-time video from multiple sources into a common GigE Vision video stream