

## Q&A with Kenneth Allen Geyer, CEO and Co-Founder of Liteye Systems, Inc. providing Head Mounted Displays, Thermal Cameras, Radar, Electronic Warfare Abilities, and now Counter Unmanned Aerial Vehicle Systems for Military Use and Protecting Critical Infrastructure, the Olympic Games, Airports, Oil Refineries and Gold Mines



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**CEOCFO: Mr. Geyer, what is the idea behind Liteye Systems™, Inc?**

**Mr. Geyer:** Liteye came out of another company we owned in the 1990s. We started having a need from customers that required head mounted displays and the first display we built was called the Liteye. When we sold that other company in 1999 and created a new company on January 1<sup>st</sup> 2000, we kept the displays and called the company Liteye. Our catch phrase back in those days was, "Enhancing human vision.", and we developed technologies that did just that; head mounted displays, thermal cameras, low light cameras. In the beginning we basically provided a head mounted display to a soldier, or to someone in industry, and that gave them the capability to view data or images while being hands free. This evolved into the thermal camera business as we looked at a thermal camera as another way to view the world, in another spectrum of light. That provided the end user more capabilities in the field or enhanced what they were trying to view. Over the years we have grown that mission statement to include radar, electronic warfare abilities, and now the new Counter UAV (Unmanned aerial vehicle) systems that combat rogue drone use.

**"Our products should be in the background doing the things that let you go on with your day to day life, like being able to enjoy a sporting event, going on patrol as a soldier, safely travel through an airport with your family, and never have to worry about a threat, like a rogue drone interfering with you. That is our goal."- Kenneth Allen Geyer**

**CEOCFO: How does someone know what they need?**

**Mr. Geyer:** Over the years we have mostly done military work. End users would talk to us about, for instance they had a mission with a certain set of parameters and they needed to have a way to use a thermal camera in some new environment. We would create a prototype of what they needed and develop that into a product that they could actually take into the field and utilize. Over the years that grew in many different ways. I would say word of mouth was probably the biggest way of growing our company, we did it organically. We pushed to meet every challenge a customer had to overcome, in helping them do that we had a satisfied customer, who would pass our name along, and so we would do another project. Over time this grew, we went from doing small projects like, outfitting individual soldiers or individual security staff to protecting whole sites, and securing forward operating bases or air bases. That grew into or transitioned into the industrial commercial market. Today our products protect royal palaces, nuclear sites, and other critical infrastructure. We protected the Olympic Games. We have protected airports, oil refineries and gold mines. It has really

grown from our customer base and being willing to engage with them, hear what their problems are, their challenges are, and then build product to fill those.

**CEOCFO: *When you are working with someone, an agency, an organization, how do you help figure out what is best? What might you look at that less experienced companies do not recognize as important?***

**Mr. Geyer:** I have been in these markets for over twenty-five years and you must look at things from outside the box. That is probably the best way to describe it. The customers have challenges where they have done something a certain way or protected something a certain way for years, sometimes decades and suddenly that is not working, suddenly the threat has changed or evolved. They are looking for reasons why it is not working and what they can do to fill that new gap. We draw on our experience and from different team members here that come from different backgrounds; everything from military to commercial security, from engineering to science to ergonomics. We have got a great team here who looks at a problem and says, "What if we did this or what if we do that, what about maybe coming up with this." Our culture has thrived on the ability to look outside Liteye as well, "If we cannot do it ourselves then we find other companies to partner with and bring in a capability and add it to the picture." That has allowed us to go into places that we never even would have thought of going eighteen years ago.

**CEOCFO: *Could you give us a couple of examples of what the challenge was and what you were able to create to solve the problem?***

**Mr. Geyer:** There are two good ones! One of the first ones was that a customer really needed a perimeter security or a perimeter surveillance system to watch a big, open irregular area. We were supplying thermal cameras. They needed something more to detect and give them an even bigger more automated way to do the job with less people. Therefore, we teamed up with a company called Blighter™ Radars and we started merging our thermal cameras and their radars together to take care of the customer's site. That led to a relationship with Blighter and a partnership that has lasted for years. Now, we are the exclusive distributors, trainers and manufacturers of Blighter Radar for North America. That was a good example of how we could take care of part of the picture and reached outside our organization for the rest. The second time that really comes to mind is when drones started becoming a problem for our military and their allies. Today it is becoming an even bigger problem for all kinds of industries; no longer just government and military, but there was a big need for protecting soldiers in Iraq back in 2014. Because of this, our group of companies together created the first US, "AUDS" system, which was a COUNTER UAV system. The Army REF, Rapid Equipping Force, put on an event in late summer of 2015. They called all companies that were in our realm that might be able to solve the problem or help defend against a rogue UAV, to come out and show their wares for a couple of weeks, Liteye answered the call. That led to an invitation back, to what they called, Desert Chance in June of 2016. That was an operational situation. Best and most extensive exercise we have ever been a part of. Companies came out with their capabilities; We then ran them for thirty days straight with soldiers and marines operating the system, day and night ops, defending against real world threats. There was a red team that attacked us, fully unscripted, and you defended the base. After that thirty days we had been very successful. We were one of the last companies standing and that led to us getting our very first contract for systems that went into combat with the US Army in Iraq in October of 2016. We were one of the very first companies to start defending our troops against that new threat, in combat. We have defeated over 1000 drones since then. That success has led today to delivering over \$37 million in systems by the end of this year, that is just for COUNTER UAS air defense. Terrible problem that unfortunately is growing by the day and threatening more than just military units.

**CEOCFO: *With so much change in technology how do you, one, stay up to date and two, stay ahead?***

**Mr. Geyer:** It is a challenge! That is something that is a challenge for every company nowadays! You basically have to draw a line in the sand with your engineering department and say, "Okay, we know that there is something better coming, but we have to get something in the field now." Therefore, we develop a product or a concept with a mindset that we will be able to enhance it in the field as time goes on, so there is always an improvement roadmap for every product we build. There is the initial fielding and then there are updates that can be rolled out over the years. Another issue is we are always playing a chess game with the enemy, so we never want to roll out our improvements too fast. What I mean by that is if an enemy has success and you take that away they will adjust and try to regain that advantage. If you show all of your capabilities up front you play into their hands. It is much better to keep improving, keep making it progressively harder to beat us. At some point there is an end of life because something else comes into play. The nice part is that things like radars and cameras, thermal cameras and so on; they are not changing every day. There are improvements coming, to software and firmware which can be changed in the field, but the hardware does not really change that often. It is over a year or even two years that we start to incorporate other technologies or other electronic capabilities into our products. We don't have the challenges that something like a cellphone has. There isn't a new one out every week.

**CEOCFO: Do you have a stable of inventory and steady products or is almost everything done on a custom basis?**

**Mr. Geyer:** It is kind of a mixture of both. We have customers that have long term contracts where we stock product and fulfill as needed. Then there are bigger projects. For instance, right now we just won a big contract with the Air Force to build counter UAV operator centers in shipping containers. These are built to order. With these types of orders, we work with our customers to develop a statement of work and then build to that statement of work.

**CEOCFO: Would you tell us a little bit about industries outside of government, who is looking at what you do and where the big growth areas are?**

**Mr. Geyer:** We protect international airports. Our hardware is at international airports around the world. We protect gold mines. For one of the interesting ones, we do a line of covert thermal cameras that can actually be camouflaged so that they blend into a royal palace, museum, or other architecture where you do not really want to take away from the locations beauty, but it still needs to be protected. That is a big market for us. We have protected events like the Olympics and other sporting events over the years. What is growing the most is the counter UAS part of our business, it is not just stopping a drone from observation, or dropping explosives from the air. People are now using these drone platforms to try to hack into networks, peer into windows, record test events. There are many research and development companies that are looking for ways to protect against this new threat, a threat that is not only spying on them with cameras and listening, it is now trying to hack into their network. Theft of IP can start adding up really fast. Hardest part is most companies don't realize they have a problem, but most do.

**CEOCFO: You mentioned protecting the Olympics. How do you provide protection without interfering with the people in the stadium using WiFi or BlueTooth?**

**Mr. Geyer:** It is a balancing act! The biggest part is to blend into the surroundings. For us and for our end users, it has been to not be obtrusive into the person's experience. With thermal cameras, our radar, and other technologies we surveil an area, watch for people that are doing bad things or are in areas they shouldn't be. Then, coordinating with security make sure that the right personnel are in the right location to interdict as soon as possible. Counter UAV is a different threat. Now days you have got something that flies in from anywhere at a fast speed. The hardest thing currently is that commercial customers cannot yet use the tools that military is using. This means the commercial venues must find other ways to be creative and foil a threat. For this our systems are tailored more to tracking down the pilot, trying to give fair warning, at greater distance that there is a threat coming. Our system gathers evidence that can be utilized later for a conviction. It is very early days for this market and there is a lot of room for growth and improvement, advancements in the technology for these public areas.

It is always a different mission for everywhere we go. An airport has one mission to do something a certain way. An oil refinery has another. An amusement park or a royal palace has a whole different set of issues. Each of these sites have different threats that concern them and different things that they want to monitor. We do not always fit everything that they are trying to do, but we come in and try to fill a void.

**CEOCFO: As Liteye Systems has such a trusted reputation are you able to sometimes direct an organization into something that they are not thinking of but that you know is really the best of the way it should be?**

**Mr. Geyer:** Some people do hire us to advise; advising what we have seen out there in other areas. We can draw on eighteen years of experience for what we are doing today. We draw on that experience to say, "here is what has worked in location A and we feel it will work the same way for you." We work with their security people or whoever it is that is running their operation. We work closely with the people on the ground defending day to day. Our team starts by conducting a site survey and lays out the maximum coverage. Once installed we tweak stuff, or dial it in. After installing you start looking at operation and start defining better ways and more fluid ways to operate around the new tech. It might be that a site wants us to tone down something or they might want a change made. We must work with that end user closely to provide the best solution. You cannot just simply sell and ship something, and then walk away. It is definitely a two-way street and where you are receiving as much feedback from them as you give them. That builds the library, that builds the data base, that in the future you might draw on for another challenge.

**CEOCFO: Once a system is in place do you typically have an ongoing relationship?**

**Mr. Geyer:** Yes.

**CEOCFO: What do you do as time goes by?**

**Mr. Geyer:** There are some customers that just buy our products and have us install them. There are other customers where we do all kinds of things beyond installing. We work with software companies that create a command and control software or C2 software for the location. Or other times they already have something working and we fit within it. Once

systems are delivered there is ongoing training, upgrades, maintenance, and if something stops being effective down the road, there might be a different approach to how they use our products. Eventually everything needs to be replaced, many of our customers are repeat customers.

**CEOCFO: *Can you handle all the business that comes your way?***

**Mr. Geyer:** Currently we are in an expansion phase. We are adding staff. We have added ten people in just the last few months and will add another ten to twelve around the end of the year. Liteye is in the process of acquiring or merging with a few key companies that will allow us to increase our abilities to handle even more growth.

**CEOCFO: *What do you look for in your people over and above the technical skills?***

**Mr. Geyer:** A lot of love for science and engineering. Our philosophy and our culture as a company draws inspiration from the book "Skunk Works". It was written by a man named Ben Rich. That book meant a lot to us in the early days when we started out working in these industries; myself and my co-founder, Tom Scott. Today every new employee that joins us receives a copy of the book. We basically embrace the fact that inspiration can come from any corner, and anyone in our company can come up with ideas. Everyone is open to discuss, someone in logistics or shipping may come up with a great idea to solve a problem that others are stuck on in another department. Liteye looks for people that will fit that mold and can think outside the box. If you like working for a big, five-billion-dollar defense contractor in that structured corporate world you are probably not going to fit well here. We need to be loose and ready to change or adapt to what is going on in the market, or what is going on with a customer's specific situation. We try to nurture a culture of individuals, that no matter what the job there here for; accounting, shipping, engineering, production, they really enjoy what Liteye is doing. They must like listening and participating in what we are doing as a team. Not all ideas are great, but we have got a team here that is trying to solve a problem and all it takes is one idea to make something turn out great.

**CEOCFO: *What should people remember about Liteye Systems, Inc?***

**Mr. Geyer:** We want to protect critical infrastructure. That is our mission. We want to be out there, so you don't have to think about it. You should not have to know that is our camera or our counter UAS system protecting an area you're in. Our products should be in the background doing the things that let you go on with your day to day life, like being able to enjoy a sporting event, going on patrol as a soldier, safely travel through an airport with your family, and never have to worry about a threat, like a rogue drone interfering with you. That is our goal.

