

Protecting Soldiers through Laser and Electro-Optic Explosive Sensing



Ed Dottery - CEO

About Alakai Defense Systems

Alakai Defense Systems, Inc., is a defense and security technology company specializing in laser and electro-optic sensing of explosives, home made explosives, IEDs and chemicals of interest. It's product line of explosives detection systems are differentiated by operating at detection ranges much longer than those presently on the market, while remaining completely eye-safe. Alakai systems were deployed overseas by the US Army. Strong performance as a Department of Defense (DoD) and Department of Homeland Security (DHS) Prime Contractor and system integrator has led to recognition including: the Florida Governor's Entrepreneurial Award (2008), the Tampa Bay Technology Forum Emerging Technology Company of the Year Award (2010), and the Tampa Bay Business Journal's 'Fast 50' list of fastest growing companies in the region (2014), and the Inc. 5000 (2014).

Interview conducted by: Lynn Fosse, Senior Editor, CEOCFO Magazine

CEOCFO: Mr. Dottery, would you tell us about Alakai Defense Systems?

Mr. Dottery: Our motto is we were soldiers, our children are soldiers, and our mission is to protect the soldier. We achieve our motto by detecting the number one killer of soldiers, sailors, airmen, marines and our fighting forces by detecting explosives. We do that at a much longer range than the guys currently in the field can do or farther away than anybody else for that matter.

CEOCFO: What is involved in the detection?

Mr. Dottery: We use a technology called Raman Spectroscopy, where you have scattering of light against matter. It is essentially a laser-based sensor, which interacts with explosives. We then collect the reflected light in a glorified light bucket and take its fingerprint. With a little bit of our magic we can tell you if it is going to be a "boom" or "no boom". At the end of the day, that is what the privates in the field care about.

CEOCFO: Who has the equipment?

Mr. Dottery: We are a fairly new invention. We have been at it since 2007, with about four different generations of successfully better prototypes. The prototype that we currently have is called the Standoff Covert Eyesafe Explosive Detection System and that is the pinnacle of our achievement. There are only a handful of them available on the planet. According to some of our customers it is the best in the world.

CEOCFO: Is the equipment being used today?

Mr. Dottery: It was built under army contract of the DOD agencies and right now they are having us take it out to various field exercises and overseas deployments to kick the tire. I am glad to report that 100% of the soldiers, who have used it, want it. The test results are very positive and we are waiting for that next big phase to get into production.

CEOCFO: Just because the soldiers want it, does not mean that the powers that be will facilitate it?

Mr. Dottery: In the height of recent conflicts a bunch of soldiers asked for mine protective armored vehicles so they would not be blown up and a government official thought it was not in his budget, and the congress disabused him of that notion, and let them know that protecting our soldiers should be their first priority. I believe all branches of government want to protect the troops first and foremost.

CEO CFO: *What have you learned from the first version and how is it a better product today?*

Mr. Dottery: Most rapid prototypes you will take Duct tape, wire, coat hangers and we cobble something together and say does this work, and the evaluators say it sort of does. For example, our first generation prototype we used an astronomical telescope that anybody can buy out of a catalogue and coated the optics somewhat differently. We bought some other components and in short order got something that would detect explosives at tens of meters. In the early prototypes, we had to see which of the technologies add the most value and which of those are not bad but ready for prime time. Now we are at the point with our fourth generation where it is about the size of a footlocker and while the typical technologies would detect explosives at meters or less, we detect it much further out.

CEO CFO: *What is the competitive landscape?*

Mr. Dottery: In our case, I think the technologies are so novel that the government procurers and in our case usually the army, really did seek out the best technology and we had to prove ourselves like anybody else. There are a couple of competitions that should have gone our way but did not, but over the long haul we just continue to do what we say we will do and do it better than we say we can do and that has given us a good reputation. I have had competitors take me aside and say “we checked you out with some of our usual customers and they said you were good”.

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CEO CFO: *Will you be selling to other countries as well as the US?*

Mr. Dottery: I hope so. We started down that road in the process of export and many military commanders have told us that under America’s new defense strategy that they want fewer US boots on the ground and to do that we need to build host nation capability and the capability of some of our allies especially in the less developed countries. One of the best ways we can build their capability and keep our boots at home is to help protect those foreign boots in their own country by providing them state-of-the-art explosive detection equipment.

CEO CFO: *Do you have the funding for the next steps?*

Mr. Dottery: Yes, we have funding in place. As a defense contractor, the entire industry is much different than the commercial industry in that we are not asked to use venture capital or our own resources, and put together something that we know will sell. We are asked to do the impossible in some ways; some things that no Venture Capitalist would touch with a ten-foot pole; so the government must pay us and others, to do research and development. We are closely scrutinized and audited and our profit rates are very severely capped but we do get our research and development paid for, and when we succeed, we are rewarded by additional research and development funding, so that is why we are in an envious position of owning 100% of the company shares at present. We have essentially no debt. We did revenues around \$8 million last year and expect to be close to that this year.

CEO CFO: *What are some of the other products you are working on?*

Mr. Dottery: SCEEDS is our flagship and that is one that is ready now to protect at over 100 meters. That product is ready for sale now and ready for export. We also have the Man Portable Stand-off Detection System in the developing pipeline, which I will not say too much about now. We also have something that might be more akin to something you might find at a TSA checkpoint. Right now at a TSA checkpoint, they wipe swabs on your hands and then they put it into a system to detect explosives. That technology means you have expendable products and you have to physically touch the American public with these swabs. Our product on that line will be a cart with a wand on the end and without touching the person and we will be able to detect if they have explosives or explosive residues on them.

CEO CFO: *There is a lot going on at Alakai!*

Mr. Dottery: Thank you! Yes we are very excited. The newspaper is ripe with ISIS terrorists, Al-Qaida and homegrown crazies. The value proposition is pretty straightforward. No soldier that I have talked to was given

the option of whether they would like to touch the bomb, or detect the bomb from faraway. No one seems to want to touch it. I think we are at the starting point. I think once the word is out that the technology is ready for sale I think we are in for some exciting times.

CEO CFO: *Why pay attention to Alakai Defense Systems?*

Mr. Dottery: What differentiates us is an intensive user-focus and break-through technology. I am a soldier and we have a lot of veterans in the company and they have children who are now soldiers that will be in harm's way. We are motivated and passionate about what we do. We have skin in the game and we want to help bring the guys home. On the technical end, we do not claim to be the biggest or the cheapest, we just claim that when it comes time to try to get the impossible done, well, we managed to do it once and we hope to be able to do it again. Ultimately when you want to be protecting Americans at home and abroad, pay attention to Alakai Defense Systems.

CEO CFO: *Who has been taking notice of Alakai Defense? What is the importance?*

Mr. Dottery: The Tampa Bay Business Journal has a Fast 50, which is a designation of the fifty fastest growing companies in the Tampa Bay region. We were surprised and delighted that we were number six on that list. At the state level, we were told by the GrowFlorida Organization that we were designated one of the top fifty Florida companies to watch. The Tampa Bay Business Journal and some of its sister publication rated us in the top 100 of Florida fast-growing businesses, and we were #29 on that list. At the national level we made Inc. 5000.

CEO CFO: *So people are taking notice!*

Mr. Dottery: Yes, they appear to be. It is gratifying but our main gratification will be the first time we get a letter from a 19 year-old soldier and he says he has his legs today because our SCREEDS detected a bomb without having to touch the bomb.

BIO: Ed Dottery is the founder and President of Alakai Defense Systems, Inc. In that position, he has overseen the company during: rapid growth, multiple state and regional awards including the Governors Entrepreneurial Award in (2008), Tampa Bay Technology Forum's Emerging Technology company of the year 2010, and Tampa Bay Business Journals Florida Fast 50, Florida, Companies to Watch and the Inc. 5000 (2014). Mr. Dottery and the Alakai Team also have many publications, patents & patents pending, and four major generations of standoff spectroscopic sensor systems to their credit. During his Army career he commanded in the Infantry and Special Forces and served on the physics faculty at West Point. He oversaw defense programs in both the Army Acquisition Corps and also for the Lockheed Martin Corporation. He holds a BS from West Point and MS from Stanford University in Applied Physics.



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