

Field Forensics on Fast Growth Track

Early last year President Hamid Karzai of Afghanistan, in order to stem the production of a certain type of home made explosive by terrorists, banned the import and use of a particular fertilizer called ammonium nitrate. However, the Afghan Border Police had no way of distinguishing legal phosphate-based fertilizers from the illegal ammonium nitrate fertilizers.

Field Forensics, Inc. (FFI) of Largo stepped in with a solution. The U.S. Government bought FFI's newly developed IDEX-002 ammonium nitrate identification kits and supplied the kits to the Afghan Border Police, who were then trained on the use of the kits by the Royal Canadian Mounted Police. So, far FFI has shipped tens of thousands of the IDEX-002 kits to the police in Afghanistan.

FFI Founder and CEO Craig Johnson has spent 25 years in the sensor and detection business, detecting and analyzing radioactive material, explosives, chemical weapons and other such materials, and has gained a number of insights into what it takes to be a successful entrepreneur, particularly in this industry. "We have to turn technology into products and do it quickly," he says. "The entrepreneur must identify a need in the market, determine what the market will bear in terms of price, and then decide whether the opportunity is strong enough to drive and sustain growth."

With his company doubling in sales year over year for the past five years, Johnson is constantly looking for new technologies and has so far licensed technology portfolios from Lawrence Livermore National Laboratory (LLNL), Los Alamos National Laboratory and Florida International University. Field Forensics also develops technologies in-house and has recently been awarded a development contract by the Counter Terrorism Technology Support Office, the company's first such contract.

Field Forensics may be best known for its explosive detection devices such as the ELITE series developed to detect trace amounts of explosives. However, last year the company introduced the IDEX product line – a line of substance identifiers to aid military personnel, police and customs guards in identifying homemade explosives components (“precursors”) and illicit drug precursors that are being stored, used or smuggled. The IDEX kits are small, easy to use and durable enough for daily use by police and military personnel – several can fit into an average pants pocket.

The newest model in the IDEX product line, IDEX-008 detection kit for acetic anhydride, is also finding immediate application in Afghanistan, which produces more than 90 percent of the world’s opium gum, the basic precursor to heroin. The production process requires more than 1,150 tons of acetic anhydride, a commercial chemical that currently has no identifiable use in Afghanistan other than to process opium into heroin. Use of the Field Forensics IDEX-008 at target border points can significantly impact its entry into the country and, therefore, the production and exportation of heroin. Similar uses are being explored for border crossings in Asia Minor as well in the Americas.

Johnson started his career with the U.S. Navy in radiological engineering on nuclear submarines. He then worked with a German firm, Berthold Instruments, as a radiation detection instrument specialist. Berthold soon became part of EG&G Nuclear Instruments in Oak Ridge, Tenn., where Johnson held various position in marketing and R&D, including founding and managing EG&G’s Customs Systems Group.

With a bachelor’s degree in physics and 15 years of business and technical experience, Johnson started his first company in 1996. Realizing that “there was a lot more he needed to

know about business,” he earned an MBA, which helped particularly in the areas of finance and accounting,

Citing 9/11 as a catalyst, he founded Field Forensics in September 2001 to become more involved in homeland security issues and licensed a chemical extraction IP portfolio from Lawrence Livermore National Laboratory. The young FFI immediately sold products developed from the licensed technology to military groups engaged in the war on terrorism.

Later licensing an explosives detection technology from LLNL, Johnson was able to use his technology, manufacturing and marketing skills to sell related products to a variety of military and law enforcement clients. “Although we had licensed a strong IP portfolio, we were able to improve the technology and add 30 percent more to its capability in terms of explosives categories detected,” he says. In 2006, FFI and LLNL were jointly awarded the prestigious R&D100 Award for the ELITE Model EL100, FFI’s first explosives detection product. The award, presented by *R&D* magazine, recognizes the 100 most technologically significant new products each year.

FFI continued product development and marketing through 2006, working primarily out of Johnson’s garage, when it became clear that the company needed better lab space. After subletting space that he could access only at night and on weekends, he was introduced to Tampa Bay Innovation Center (then STAR TEC) in 2007, which he saw could provide the lab space FFI needed and could support rapid growth. He anticipated that the Innovation Center might also give the company better visibility with SOCOM.

Johnson notes, “Our association with the Innovation Center and the location have been helpful because of the cluster of forensics and supporting contract manufacturing companies we have in the area. We can get third party world class testing and evaluation of our products done

at the National Forensics Science Technology Center, get feedback quickly and convert the feedback into necessary product modifications.”

“My Innovation Center advisory board has been extremely helpful,” he says. “I liked the quarterly reporting protocol that forced me to analyze the business formally and on a regular basis.” Now firmly entrenched as an entrepreneur, he reflects on what he has learned over the years. “I think we’re kind of unusual for a technology company because we started with our own capital and everyone working on a commission-only basis to create products and generate sales. The more typical scenario for technology startups is to sink millions of investor-provided money before generating revenue.”

He adds that the company’s past and most current R&D funding is entirely provided by sales revenue. This sales revenue, much of which is from exports, is expanding as the company expands its distribution network. “Time is compressed in dealing with these technologies,” he says. “We need to be able to get to market faster, employing new techniques and technologies, as we are working against huge multinational competitors.”

In 2007, when Field Forensics joined the Innovation Center, FFI had one full time employee; now there are 11 employees, located in Largo, Miami, Los Angeles and South Carolina. More staff will be added within the next few months. At its current rate of growth, Johnson anticipates the company could grow its revenues to \$50 million within the next five years – a growth rate that should satisfy even the most demanding entrepreneur.

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