

A man in a dark suit, white shirt, and striped tie is wearing dark sunglasses and talking on a mobile phone. He is looking slightly to the right. The background is a dark, textured wall.

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Special Network Agent

Marty Muscatello,
FoxGuard Solutions



Secret Agent Man >

We often shoot characters and conceptual metaphors for our FRONTcovers. Sometimes, our model (who is not a professional model, but a real subject, directly connected to the story) happens to fit the part rather nicely. This month's FRONTcover model? OMG. Or should we say OMG-Man...Marty Muscatello could be a real life government operative for all we know. A Hollywood casting agent could not have done a better job. People walking by, suddenly got all nervous and started

looking around as if expecting a motorcade. Real life security guards were asking for autographs. Black SUVs started showing up. We started getting mysterious texts from Quantico. And off in the distance, we swore we could hear a helicopter approaching. Gee, thanks Agent M2... We always appreciate publicity at the FRONT, but we'd prefer not to be placed on a watchlist.

—Tom Field

Someone Call Security



It seems everything has software loaded on it these days. Our vehicles, phones, televisions, and thermostats, plus programmable devices used in substations, infusion pumps used in hospitals, and systems used to control locks in buildings are examples. Combine that with the fact that most of these either are, or have the ability to be, connected to the Internet. Once a vulnerability is published for one of these devices, hackers can gain access to these devices and potentially cause harm. Consider the effects on your life if any of the examples listed were to stop working. Some may be minor annoyances, while others could be a matter of life or death. Most believe that all software has bugs. Patches and updates are supplied to address these bugs and keep all of the software-based devices from potential compromise. But as more devices become smart and interconnected the problem grows, as does the need for security solutions.

Enter FoxGuard Solutions, a local company that aims to mitigate such damage. It designs, manufactures, and integrates innovative computing, cyber security, and regulatory compliance solutions used in critical infrastructure markets. An important part of the FoxGuard story is the cyber security industry, one of its two business units (the other being computing). President and CEO Marty Muscatello says that cyber security is the fastest growing side of the business, with annual growth of 30% per year.

Utilitarian application

FoxGuard specializes in utilities. It has built full-featured security and compliance programs for several of the largest energy equipment vendors in the world. Through these programs, it has deployed solutions at hundreds of sites in over 30 countries throughout the world. It also works directly with energy utilities to assist them in building their patch management programs across their infrastructures. FoxGuard has seen great demand for these solutions in the electric utility market as cyberattacks involving malware

Security Solutions >

Executive Summary: FoxGuard Solutions in Christiansburg provides products and services for sophisticated computer networks—the part of the business growing the fastest? The part that deals with cybersecurity.

By Jennifer Poff Cooper



create more awareness, and as compliance standards increase the scope of assets that need to be addressed.

The importance of how private and municipal utilities will protect and defend their networks is monumental, giving FoxGuard a strong footprint in the industry. Industrial control systems (ICS) in critical infrastructure are high-risk targets for attack and exploitation. These systems are considered so vital to the United States that the interruption or disablement could have catastrophic effects on the security, economy, health, or safety of its citizens. As a result, the North American Electric Reliability Corporation (NERC) has established standards and regulations on securing systems in the ICS environment. Patches and updates are required to help resolve security vulnerabilities, address functional issues, and meet compliance requirements. Besides utilities, other critical infrastructure markets include water and health care, Muscatello says.

A good URL (unique regional location, that is)

Located in the Christiansburg Industrial Park, FoxGuard employs 110 total employees across both business units. Southwest Virginia gives the company access to local universities while also offering a high quality of life without the burden of major metropolitan area traffic and cost of living.

For marketing, FoxGuard is building an integrated plan that will focus on creating a consistent customer experience when interacting with its brand across multiple marketing channels including advertising, sales promotion,

trade shows, direct marketing, and social media.

How do the pieces of FoxGuard's sister and predecessor companies fit together? CCS-Inc., or Comprehensive Computer Solutions, was founded in 1981 and delivered IT hardware and services to local businesses. FoxGuard Solutions was established in 2009 as a subsidiary to address the cybersecurity and compliance needs of customers in the energy industry. In 2014, CCS-Inc. merged with FoxGuard Solutions to capitalize on brand recognition built by FoxGuard in target industries. Muscatello said, "We wanted a name change and FoxGuard (originally a brand) was getting good traction in market place." Qualtrax was also a subsidiary of CCS. Management decided to separate Qualtrax into a totally different company and take the computing and cyber security business and call it FoxGuard, eliminating the CCS-Inc. name altogether.

Muscatello joined CCS-Inc. in 2003 as President. He began serving as both President and CEO beginning in May of 2005. When the company split into Qualtrax and FoxGuard at the beginning of this year, Muscatello stayed at the helm of FoxGuard, though still with ownership stake in Qualtrax. Muscatello's background includes a BS in Industrial and Systems Engineering as well as an MBA from Virginia Tech. He started as an engineer at Litton Poly Scientific and spent





the earlier part of his career focused on operational excellence and lean manufacturing. Later, he managed multiple divisions of varying corporations. However, "I always wanted to do something on my own," says Muscatello. "I was able to do this with my present business partner, Tim Lawson. We have been business partners for nearly 14 years... Tim and I bought the company [CCS-Inc.] from the original ownership."

Scalability part of the plan

During his time at FoxGuard, both revenue and workforce numbers have more than tripled. Muscatello emphasizes

the importance of innovation, of finding niches, and of taking reasonable risks and turning them into opportunities. FoxGuard has made some small acquisitions, for example, that have generated new capabilities and knowledge. In 2013, FoxGuard was awarded a \$4.3 million cooperative agreement with the U.S. Department of Energy to simplify the patch management burden of ICS devices used in the energy utility industry. Muscatello is proud of building the security aspect of FoxGuard from scratch, and now it generates 30% of the revenue.

Watching personnel grow and succeed is exciting to Muscatello. He also enjoys traveling to meet customers – even unhappy ones, because he can take back their



input to build stronger products and services.

One challenge, says Muscatello, is making tough decisions. Early on, some formerly key business segments were sold off to get the company profitable. Trying to figure out the next best move can be painful for the whole team, Muscatello says, but he turns his view of such reinventions to the positive as they force change and ultimately growth.


Muscatello is a self-described "big believer" in the combined Roanoke-Blacksburg technology effort because the synergy promotes competitiveness with other high-tech areas. He says he has stayed based in the New River Valley because he never found a place he liked better, both on a personal level with things such as the weather and the community, and on a business level with the surrounding academic

institutions and entrepreneurial companies.

Active in the Roanoke-Blacksburg Technology Council (RBTC), Muscatello says that participation in the board has reaped benefits for his companies in attracting talent, and also personal benefits in learning from and forming relationships with other successful business folks. He serves on numerous boards, being passionate to help up and coming entrepreneurial companies.

The company has enjoyed mentorship from multiple individuals in RBTC who have been willing to share their wisdom. Business leaders, professors and leadership at Virginia Tech, local government leaders, attorneys, and business advisors have all been a part of mentoring FoxGuard to its success.

Utilizing the RBTC forums like Product Manager and Business Development, many of FoxGuard's employees get involved and learn what other companies are doing to solve day to day problems. Also, several leadership team members utilize the Roundtable groups that offer peer to peer discussion. The monthly breakfast meetings and other annual events allow many employees to get to know people within other technology companies in the region.

Cyber security is a matter of national security at this time and that will not change anytime soon. FoxGuard is trying to "figure out all the players," says Muscatello, and partner with the winners. Muscatello has committed his "heart, soul, and financial resources" to the business for the rest of his career. With these components in place, FoxGuard has a template for success. 



Marty Muscatello

