



## Enhancing Legacy System Performance through New Technology

**Technology**  
**Tactical Data Communications**

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**Michael Carter**  
**CEO**

**BIO:** Michael Carter is the CEO and President of Sabtech; the world leader in C5ISR Data I/O products and Systems. He is a seasoned industry veteran with over thirty years of technology and product development experience. Mr. Carter has developed systems and technology employed in Early Warning, Fire Control, Navigation, Embedded Computing, Servers, Data I/O, Communications, and Power Control.

**About Sabtech:**

Sabtech Industries' mission is to be the sought-after expert in the design, manufacture, marketing, and support of specialty data communications solutions for military and government agencies. Through our leadership we create value for our customers, employees, vendors and shareholders

while enhancing personal satisfaction and professional growth for our people.

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

**CEOCFO:** Mr. Carter, what was the original concept for Sabtech and what is the vision today?

**Mr. Carter:** The original concept of Sabtech was to develop leading-edge technology that would allow legacy systems in use in military defense applications to do two things: One thing would be to allow the systems to operate for a longer period of time and two, infuse new technology that would add performance enhancements to those systems. The mission today is the same; we are designing new technology that replaces legacy systems that allow those legacy systems to operate longer and enhance performance.

**CEOCFO:** What is the key to reviewing and revising a piece of equipment?

**Mr. Carter:** One way is we get a request from one of the branches of the services that they are looking to replace a legacy system or systems with new technology. In most cases for example, we have a product called the SDDC (Sabtech Data Display Computer) and we developed that specifically to replace half a dozen different systems that are used aboard a ship such as guided missile cruisers and on destroyers. That was a specific request from the navy to design and build a unit that would replace those that are aging. In the case where we are doing new product development, which we do a substantial amount of, we canvas, do

marketing research and identify opportunities available in the military defense applications that are being underserved. We developed a market requirement document which then translates into a product requirement document and then into design specifications. We use a combination of hardware and software design to use primarily Field Programmable Gate Array (FPGA) core technology to develop new products. Our product development is a combination of direct request from military and defense and from market research that we conduct on our own.

**CEOCFO:** What are some of the challenges in developing products for the military?

**Mr. Carter:** I believe one of the largest hurdles for small to medium sized companies like Sabtech is the unavailability of development funding directly from the U.S. government. Military and defense contractors are being asked to develop new technology using their own resources and are not being reimbursed for the development costs. Sabtech has developed all of its systems and all of its technology without any funding from the government. That is not a piece of knowledge that is common throughout industry that small and medium sized companies are being asked to use our own money to develop even advanced technology systems and products.

**CEOCFO:** Do you think in this climate the government would wake up to this?

**Mr. Carter:** As the defense budget shrinks, contractors and companies are being asked to do more development using their own resources. I think this is not really a

trend but a process that is going to be here to stay for a long time.

**CEO CFO:** Where does experience and gut feeling come in when you are making a decision?

**Mr. Carter:** Analytics will only go so far in market research and identifying the market. At some point in time you may have a product that the analytics may not be heavily weighted towards. There is a question mark of whether or not you should develop that product and spend your resources to do so. That is why the gut check comes in. That gut check is tempered by knowledge and experience, customers, market and the technology itself. So there does come a time where there are products that you have to use your gut in order to make the final decision.

**CEO CFO:** In addition to funding issues, it is often difficult working with government agencies. How do you get around some of the challenges?

**Mr. Carter:** We have been very fortunate and have very little difficulty working directly with the government and obtaining contracts and purchase orders and executing the requirements of those contracts. The payment cycle is very good and we have very good relationships with all the people that we deal with in the Department of Defense (DOD). We are not faced with huge challenges in dealing with the government as it relates to the administration of the contracts or purchase orders for receiving payments. I think that is attributed to the long-standing relationships that Sabtech has with the military and defense.

**CEO CFO:** How do you break down between U.S. and international? Where do you see growth?

**Mr. Carter:** Our primary market is the U.S.; however, we do have a substantial amount of foreign military sales. The number one challenge in foreign military sales or foreign export are ITAR Regulations (International Traffic in Arms Regulations) and the export license requirements of the U.S. government. It is a big challenge

and it can take on the low end six weeks to get an export license approved for ITAR Control technology. We have an easier time because we have people that are export compliance officers within the company.

**CEO CFO:** How is business these days?

**Mr. Carter:** We are a thriving company. We have very little debt and we are an S corporation. Our business is very strong, especially due to the military trying to extend the life of existing systems. We do a tremendous amount of new product development for custom and high end processor boards, however our business is very strong because we are infusing new technology into old systems and that is where the money is in the military defense market now.

**CEO CFO:** How do you attract talent?

**Mr. Carter:** The primary source for talent is referrals and the people that

**“The community should take notice of Sabtech because we are doing things in technology, hardware and software that no one else has done before.”- Michael Carter**

we have within will have associates in the industry. We look for people who are already in the company and we have relationships with academia, with U.C. Irvine for instance, and their graduate school of engineering. We work with them in technology development and we reach out to those organizations for viable candidates for our technical range.

**CEO CFO:** What is the key to keeping up with all the new technologies?

**Mr. Carter:** Sabtech does a tremendous amount of industry research and networking. We attend all the major technology tradeshow. We send our engineering personnel to technical seminars. We have a detailed training program that identifies emerging technology that we want to train our engineers in hardware, software, mechanical and industrial design. We work with academia as I said earlier and we have programs with Aerospace Corporation using new technology and training our engineers on its use.

When I first started as a design engineer in the late seventies I thought technology was going at a very rapid pace but today it seems the advancement of technology is at a pace at least five times greater than when I first became an engineer and was designing.

**CEO CFO:** What is the competitive landscape?

**Mr. Carter:** The way we differentiate ourselves from our competitors is that we feel that we have an edge in the hardware and the software design as it relates to custom chip sets and semiconductors. Our operating systems and our data translation software is unique. We pride ourselves in being recognized as an industry leader in the amount of technical support that we provide to our customers.

**CEO CFO:** You mentioned you have unique software. Would you explain what is better, faster, easier?

**Mr. Carter:** One of our core technologies is translating data that is in one type of format. For example, for a long period of time the navy has used a system called the 1651

weapons system and it uses Naval Tactical Data System (NTDS) technology. NTDS technology is an aging technology and there is a requirement to translate the NTDS data into data that can be transmitted via the internet. A core piece of our technology is the software that translates the NTDS into Ethernet. We perform these operations in software that allows all of the various sensors within a shipboard weapon system to be able to communicate effectively and do it in a seamless manner. What this means is there is no latency. As you can imagine, it is vitally important that if there is an incoming missile directed at a ship that it gets detected quickly and all the sensors that are collecting this information report to a command information center. If there is latency of even a second or two it could mean the difference between life and death. By having hardware and software work together, it allows the systems to operate and translate that data without any delay in that

information getting to where it needs to be.

**CEOCFO:** I can hear excitement about your business and what you are creating. How do you maintain that enthusiasm after all these years?

**Mr. Carter:** It excites me because although I am the CEO, I am still an engineer and a technologist at heart. Military and defense is our mainstay. What we do allows the military to fight effectively. What makes our equipment vital to those weapons systems is that without Sabtech technology, cruise missiles will not fire. What we do makes a huge difference for our military forces.

**CEOCFO:** Do you see expansion into areas outside of the military or is it more opportunistic?

**Mr. Carter:** We have technology in industrial controls and factory automation. We have products that control systems in power plants and various factories to coordinate the use of various pieces of production equipment. Our interface and control products also apply to the industrial sector throughout the U.S. and abroad in countless factory automation, production facilities and power plants.

**CEOCFO:** Why should the business and investment community pay attention to Sabtech?

**Mr. Carter:** As a company we are an innovation leader. The products that we have been developing over the last two years - including general purpose processors and custom ship sets - provide technology that is not currently available in the marketplace. We have completely re-engineered our engineering department and our methodology. This is all centered around custom chip set development, semiconductors and general purpose processors. We have released two of those products this year and we have two more products being released next year. The community should take notice of Sabtech because we are doing things in technology, hardware and software that no one else has done before.



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