



Volume 5
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Technologies Solutions Group, LLC

Letter from the President :

Shopping at the Mall...

If you read the paper and watch the news you'll see the economy has made strides to the point where the FED feels confident to raise interest rates .25% from the 0% they have been carrying the last 9 years. Although not a bold move it shows things are improving.

So what's the problem with healthcare? As many of you know I belong to 3 tech groups and sit on the healthcare board of two. A very smart man who runs operations at one of our local hospitals gave me an analogy that fits healthcare better than any I have heard.

Hospitals are like a mall. Many different stores (departments) who have little or no idea what their neighbor is doing. They are all friendly to each other but there is very little interaction from a business standpoint. However, they all have to pay rent to the same landlord, adhere to the landlords rules and regulations and ultimately the mall holding companies policies.

Until Healthcare can work as a unit for the good of the patient and the system in general we are still going to have barriers and an unsustainable system moving forward. The good news is there are steps being taken to open communications throughout the system such as consolidation and automation of EMR, ISV's writing interfaces between platforms and a willingness to work across traditional boundaries. This is a very long process but I feel the system is going in the right direction functionally speaking.

Until the issues resolve themselves TSG will continue to pivot to health related companies to maximize growth and profitability. So when you are shopping at the mall and visit 15 stores for your Christmas gifts think of the TSG team meandering around various departments in hospitals just as you are.

At least we get free scrubs.

My warmest regards,



Sani-Track System News



Spongetrack/Visi-sponge gets commitment from Sato Global Solutions

Sponge-Track is TSG's most cost intensive product to bring to market, although eventually we feel the most profitable. Although the product is developed, we have been stifled regarding getting to market. The capital investment to develop the sponge manufacturing lines along with Infrastructure and supply chain has been lacking. TSG has been talking to investment sources aggressively along with working with potential suitors to both develop and eventually perform the manufacturing.

Sato Global Solutions (SGS) is an offshoot of Sato Holdings, a Japanese corporation, wants a larger domestic presence in the US. TSG principles have been doing business with Sato America since the mid-nineties. Along with committing to being a strategic partner for our Sani-track offering they have also committed to developing the sponge lines for the Sponge Track product.

SGS is a very impressive company with the moniker "the integration of things". Sato Holdings, has spared no expense enlisting the right players and resources to make SGS a complete success. To date, the TSG /SGS combination of skill-sets, has been an excellent working collaboration and, we feel confident this relationship will be profitable for years to come.

CVS infusion standards moving a step up in quality control

Pharmacy principles and guidelines have drastically changed through the years as more information is gathered regarding how contaminants can change the integrity of formularies. Since new 503B guidelines from the FDA mandate have been implemented, certain sterilization protocols that must be adhered to. Although we have taken hand hygiene monitoring to the "nth" degree this actually changes how we approach the monitoring workflow.

Now all clinicians must put on a sterile body suit, hood, booties, mask, goggles, and gloves. A hard scrub at the sink must be done before the gloves are worn. Once in the compounding room they must double glove and wash the gloves in an Alcohol /antiseptic bath. How this changes the Sani-track process is twofold. We must now track gloves in the ante room with our sensor interfaced to the Sani-track unit and we must use Alcohol dispensers instead of liquid dispensers in the compounding and negative pressure room.

CVS has also asked TSG to research and supply a sensor that will seamlessly measure air pressure, CO2 levels, humidity, temperature and air particulate.

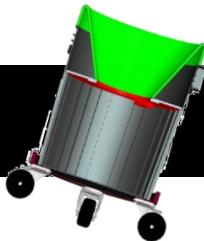
As time goes on we not only look to be a VAR (value added reseller) in the space but experts addressing many of the problems with cutting edge technology and solutions moving forward.



Ante Room



Negative Pressure Room



A glimpse into the future...



Four AIDC Opportunities In The Healthcare Industry...

In the world of healthcare, patient safety is the top priority. There are many risks in healthcare environments resulting from human error — whether it be in the process of manufacturing drugs or devices, shipping supplies, identifying the correct drug and/or the correct patient, or distributing medications and conducting procedures. By automating aspects of these processes, the risk of human error decreases while patient safety increases.

As a quick reminder to our shareholders, (AIDC) refers to automatically identifying objects, collecting data about those objects and entering the data into a computer system — which ultimately minimizes human interaction. AIDC involves the use of barcodes, Radio Frequency Identification (RFID) and other innovative technologies.

According to VDC Research's 2015 barcode vendor analysis, revenue in healthcare services is expected to grow 15.4 percent from 2016 to 2019, increasing the available budget to implement AIDC solutions — and your opportunity to sell them. Here are four current opportunities to sell AIDC solutions in the healthcare market.

Increase In Governmental Regulations And Mandates

There is a growing need to maintain compliance with developing regulations and mandates for pharmaceutical labeling (21 CFR Part 11), hazardous chemical labeling (Globally Harmonized System of Classification (GHS)) and medical device identification (Unique Device Identification (UDI)). Protecting patient confidentiality and safety, increased accuracy, and enhanced reliability of healthcare providers are motivating adoption of secure AIDC solutions. VDC Research 2012 end user analysis states this could drive increased implementation and usage of barcode solutions both in healthcare organizations and the enterprises that sell their devices or supplies to healthcare providers.

Patient Care Management And Tracking

Tracking patients during their visits to healthcare facilities ensures that the right patients are receiving the correct course of medication and/or proper procedures. Secure solutions are required to avoid data breaches and possible lawsuits for HIPAA Privacy Rule violations. This rule sets national standards for the security of electronic protected health information. Proper identification and secure data capture helps link patients to their patient files, lab samples, procedures and medications — which leads into the next opportunity.

Labeling Specimens, Medicine, And Supplies

In a healthcare facility, inaccurate labeling puts both the facility and the patient in jeopardy. The label and barcode on specimens and medications must match the information listed on the patient wristband and in the patient file. This creates a sense of security, linking specimens and medications to that specific patient through auto-ID. This reduces the risk of giving patients the wrong type of medication or procedure. In a lab setting, printing labels directly from a laboratory information management system (LIMS) improves the accuracy of specimen labeling by removing human interaction from the labeling process. For device manufacturers, USFDA legislation mandates will eventually require all medical devices to be labeled with a unique marking. UDI will drive increased adoption of AIDC solutions in both medical device manufacturers and healthcare vendors to streamline this process.

Internal Compliance And Process Changes

Healthcare organizations face many internal challenges, including counterfeiting, medication errors, and supply chain inefficiency. Organizations are gradually turning to barcode labeling solutions in response to their growing need to minimize medical errors. This, in turn, improves safety while eliminating costs (by both saving money and reducing risk to the facility and its patients). Security and automation are strong motivators to implement AIDC solutions.

All four of these opportunities are rooted in the goal to protect patients. As healthcare facilities attempt to eliminate medical errors and medical device manufacturers await pending USFDA mandates, solutions that automate these processes become vital. And with growing budgets, organizations either will be or are currently able to purchase solutions that assist with external and internal compliance initiatives — bottom line; now is the perfect time and market conditions for TSG to sell its AIDC solutions into the healthcare space.

Russell S. Gardner III, CEO/CMO



Product Update:

Spot-casting in a Nutshell....

In August 2013 TSG did a joint venture with Human Network Labs to develop a product that can track vast number of high dollar items to within 1 meter of granularity in a pre-fined space. In other words we were working on bridging the gap between GPS and active RFID technology. We proved this out about a year ago and have been actively marketing this product to particular niche industries. Ports, car dealerships and 'wander management" are three areas of focus. Being that this is a fairly new and unique technology it is still a bit hard for customers and even IT people to get their heads around.

These are some of the bullet points .

- Communications is a 2.4 Ghz radio on a peer to peer mesh network. Think of a spider web with everything communicating to each other back to a central hub.
- This is peer to peer, not triangulation. This very sophisticated algorithms we can plot location by only having 2 points.
- Battery management is very important for the life of the tag. Between controlling broadcast rate and using an accelerometer to put the tag "to sleep" during dormant times we can elongate battery life.
- By overlapping our mapping software with Google Earth we can display a graphical interpretation of the object being tracked on the computer screen in real time.

This is a fairly sophisticated sale so the sales times are long. However, our feeling is once it catches on it will be much easier with a shorter sales cycle. We have budgeted a portion of 2nd round funding to approach other areas of product development we would like to pursue for emerging market applications. This is yet another product we feel could be a market standard moving forward.



CURRENT EVENT HEADLINERS:

JJ Haines, the largest floorcovering distributor in the industry just contracted with TSG for a warehouse automation project out of Orlando Florida

We have just completed the barcode rack labeling and signage at record speed being that transfer of goods from the existing warehouse needed to be done quickly.

Frederick Memorial Hospital, a large hospital in Frederick Maryland has selected TSG to roll out anti-microbial barcode scanners throughout the hospital.

TSG programmed the units to conform with their Meditech enterprise platform. The rollout started in November and should be completed end of 2nd quarter 2016.

Becton Dickinson is revisiting their Cannula tracking project that we were selected for years ago. Budgeting was pulled so the project never got off the ground. They have re-implemented the budget and should be kicking it off again 1st quarter 2016. This is the plant where syringes are manufactured. BD is the largest syringe manufacturer in the world.

Greenwich Terminals is in the process of implementing our spotcasting peer to peer 2.4 Ghz offering. They will be tracking stevedores offloading cars from ships. Go Live should be January 2016.



THE of A.I.D.C.

And now for something a bit technical....

This 2015 year was a busy one, [for](#) customers and TSG. We solved issues with barcode scanning, wireless data collection and Wireless backbone deployments.

One of the new products we used was the new Motorola AP7522 Access Point and Wing 9000 express Virtual Controller.

I am impressed with this 802.11ac technology, seeing more robust coverage and bigger bandwidth TSG successfully implemented an upgrade replacing older Wireless mobile devices on Fork Lifts and walkabout workers with hand held wireless computer terminals both in warehouse coolers and freezers.

The new features in this Motorola (now Zebra Technologies) wireless 802.11ac protocol allowed a faster and more accurate deployment after TSG completed the on-site wireless survey.

Tom Baldvins

Field Service Engineer

TSG Employee Profile

The Kevin Holmboe and Tom Jackson relationship dates back to the late 80's when their old company Integrated Barcode Technology was founded.

Tom and Kevin worked together going on 16 years in the AIDC space until the company was sold in 2007. Kevin went to work for a defense contractor and concurrently developed an asset management program which he has been successful in selling into state government agencies.

Kevin is a wealth of information which includes the use and application of Barcode, RFID, Mapping, Radar and GPS technologies for a wide range of applications. Kevin is proficient in the design, testing and implementation of software. Although working together over the last few years as a contractor Kevin will be coming on board shortly in a variety of capacities.

Kevin lives in Annapolis with his wife Helen and daughter. He enjoys tennis and is an accomplished pianist.

To listen to some of Kevin's work go out to:

<https://www.youtube.com/watch?v=jMG32JMQWy8>



Kevin Holmboe