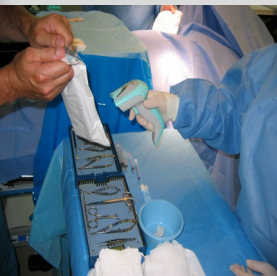




Volume 1 Edition 1  
12/29/2011

## Technologies Solutions Group, LLC

### Letter from the President :



Back in 2008 when TSG was actually started we had a vision of where we thought Healthcare was going in regards to mandates and compliance. George Bush was still in the white house and Barrack Obama was nothing but another contender in the field. Healthcare and the liability that accompanies it has always been a huge issue and its customary for hospitals to spend millions to insure to protect their interests.

New healthcare initiatives have been passed which encompass almost 2000 pages of legislation. As Nancy Pelosi stated "we must pass it to see what is in it". Well now we know and the government must come up with a way to fund this legislation. In order to do this reimbursement rates

across the board will be going down. Penalties for hospital non-compliance to protocol will be enacted. Further penalties for performance will also go into effect. Although we do not know what they are yet, premiums will be paid for superior performance or improvement over existing conditions. Overall, the government is going to get their pound of flesh to further their agendas.

So how will hospitals cope with these new mandates. Efficiencies must be instituted and procedures streamlined to save valuable resources. Applications must be put in place to address problems such as HAI/HAC occurrences, access to data to eliminate redundancy and re-training of personnel to address 21<sup>st</sup> century medicine .

The challenges are monumental and will literally take decades to totally retool. However, the products we are coming to market with are perfectly positioned for the times and should play a part in changing the paradigm in healthcare today.

## TSG displays products in Nashville Trade Show





## Sani-Track to participate in Vermont pilot and White Paper



Southwestern Vermont Health Care consists of:

- Southwestern Vermont Medical Center, a 99-bed community hospital.
- The Centers for Living & Rehabilitation, a 150-bed nursing facility that includes special units for short-term rehabilitation, long-term care and for residents with Alzheimer's disease.
- Visiting Nurse Association & Hospice, offers home nursing and rehabilitation and provides Bennington's only Medicare-certified hospice program.
- Southwestern Vermont Regional Cancer Center, a full-service cancer center



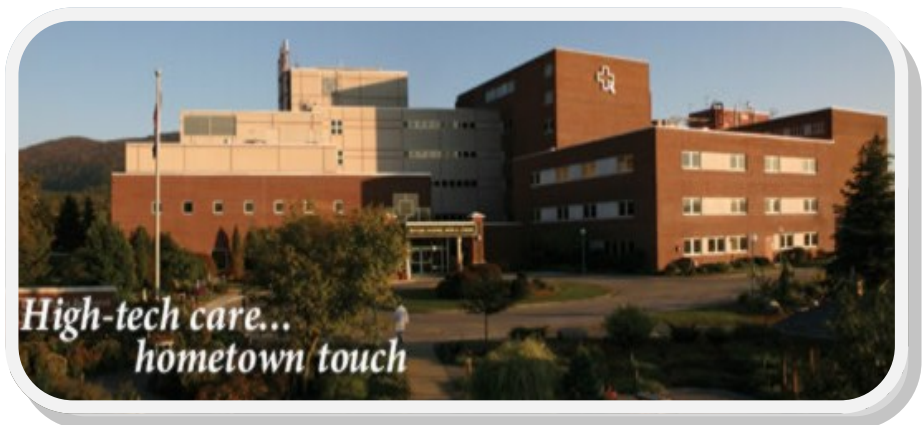
In 2008, SVMC completed the transition to fully electronic medication administration. The new system incorporates bar codes on patient arm bands, bar coded medications packed in single doses, and scanning by the nurse at the bedside. The system improves patient safety by alerting nurses to medication allergies, incorrect doses, or a mismatch between the medication order and the patient about to receive the medication. This is the type of technology SW Vermont hospital is used to implementing.



The Sani-Track pilot will run 3 months and migrate from a blind study/proof of concept, into a very focused and detailed over-view highlighting the technological and philological impediments involved in achieving 100% hand hygiene compliance.

Once concluded, a white paper study will be composed based on said pilot and submitted to Medical Journals for publishing and peer review.

TSG plans to use this study's findings and recommendations, to improve our installation procedures and, in conjunction with the Sani-Track unit, raise hygiene compliant rates from Hospital to Hospital in addition to streamlining and decreasing our installation time frame.





## NEWS FLASH.....

### TSG has been invited to join Venable, LLP exclusive group of small technology companies...

Venable, one of America's top 100 law firms, recently developed a program called Venable Venture Services through which it represents high-potential emerging companies across various disciplines. Part of the program includes a significant deferral of legal fees. We are pleased and very proud to announce that TSG will be the 4th corporation to be accepted into the Venable program..

Venable has been advising healthcare clients for more than 40 years. TSG plans to capitalize on the many disciplines within Venable—business transactions, regulatory, real estate, litigation, tax, employee benefits, technology/intellectual property, labor and employment and antitrust and leverage that experience and knowledge in making sound business decisions for our equity holders.

## The Faces of TSG...



Chanelle Akpabli hard at work oiling the gears of TSG.

Chanelle is the TSG office manager and accounts receivables/payable guru.

She , keeps the office organized, the clients contented and the dollars and cents flowing in....



Brian Bolton being interrupted from designing the next generation of TSG products.

Brian is our Director of OEM Manufacturing, and holds a business and engineering degree from the Penn State University.

Brian was a managing partner in a very successful out-source engineering firm prior to joining the TSG fold...



## Medical Product Updates

### Sani-Track Update:

To date, Sani-Track is complete in both the hardware and software offering we plan to introduce. Based on market research we made the decision to come out with our wireless version first. We have plans for the POE version (power over Ethernet) for a first quarter 2012 release.

Our contract manufacturer is First Source Electronics out of Elkridge MD. We had done an exhaustive search to find the right company to not only do board assembly, product assembly and quality control but someone we felt who would be responsive while having a vested interest in the company. FSE feels so strongly that our products will be successful, the owner has taken an investment position in the TSG. Our first finished products (50 units) should be complete and in our offices for customer delivery before Christmas.

### OR-Track Update:

TSG has finalized our agreement with Paris Technology to purchase OR-Track source/object code that will be rebranded per TSG requirements. Our programmers will be designing the screen layouts starting in January of 2012 based on healthcare industry input.

We will also be adding our own functionality over and above the capabilities of the original program to include; operation room tracking and validation, RFID for specific instrument turns and dedicated printer drivers for label generation.

### Sponge-Track Update:

Sponge-track has been an ongoing product line priority since we started development the beginning of 2010. One of the challenges we faced was the researching optimal frequencies to use for tracking. At the time HF (433 mhz) was proven for in body use but had disadvantages regarding scan distance and cost. Recently RFID chip development and sensitivity has given UHF (915 Mhz) the sensitivity to work in body at a superior depth of field compared to HF. The conversion to UHF has made integration to a sponge easier and less expensive to implement.

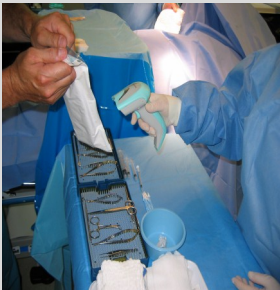
This conversion gives us an immediate competitive advantage in the healthcare marketplace and grounds our product development well into the future.

The UHF conversion of hardware and software is 95% done, with some minor modification coming for scale integration and back end enterprise functionality. The kick-bucket design is now a 1 piece unit and is proceeding to prototype manufacturing. We project going to pilot 2<sup>nd</sup> quarter 2012.

### RIM Sponge-Welding Unit Update:

TSG is designing/patenting a machine to encode RFID UHF inlays and imbed them in a barium pocket. This pocket will be ultrasonically sealed and rewound on a continuous roll. This roll will be sent to our sponge manufacturing plant where it will be cut, positioned and ultrasonically affixed to the sponge all in an inline process.

We have made some groundbreaking advances using UHF inlay technology and have elected to design our own UHF inlay moving forward. Proceeding in this manner will afford better control over the process and maintain the IP (Intellectual property) for the company and investors. Once we determine the actual size of the inlay we can move full steam ahead finishing up the machine design. We project the RIM will be completed and ready for FDA compliance testing beginning 3<sup>rd</sup> quarter 2012.





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## THE ABC of A.I.D.C.



TSG's original market niche is AIDC, supply chain/work-flow market vertical. While our medical device products are definitely the current "hot button" products in today's healthcare market our AIDC offering, IP and past performance revenue base, continues to drive the TSG cash-flow engine, taking the strain off the need for equity based investors funds.

We expect excellent market penetration and acceptance for our medical products however, when looking at TSG's long-term potential revenue base in total, the AIDC market place affords TSG a revenue stream 10 fold larger when compared to medical device health-care.

Given the aforementioned, we thought it a useful exercise to include an ABC tutorial on the basics of AIDC and a brief market overview of our AIDC market hot buttons.... *Russell Gardner, CMO*

**Automatic Identification and Data Capture (AIDC)** refers to the methods of automatically identifying objects, collecting data about them, and entering that data directly into computer systems (i.e. without human involvement). Technologies typically considered as part of AIDC include bar codes, Radio Frequency Identification (RFID), biometrics, magnetic stripes, Optical Character Recognition (OCR), smart cards, and voice recognition. AIDC is also commonly referred to as "Automatic Identification," "Auto-ID," and "Automatic Data Capture."

AIDC is the process or means of obtaining external data, particularly through analysis of images, sounds or videos. To capture data, a transducer is employed which converts the actual image or a sound into a digital file. The file is then stored and at a later time it can be analyzed by a computer, or compared with other files in a database to verify identity or to provide authorization to enter a secured system. Capturing of data can be done in various ways; the best method depends on application.

AIDC also refers to the methods of recognizing objects, getting information about them and entering that data or feeding it directly into computer systems without any human involvement. Automatic identification and data capture technologies include barcodes, RFID, bokodes, OCR, magnetic stripes, smart cards and biometrics (like iris and facial recognition system).

**AIDC Market Outlook:**

On the following page TSG has highlighted technology and market trends in barcode reader and RFID market, and details where both are converging.

TSG's AIDC IP now incorporates that of our CTO, Joseph Leone. Joe was the lead project manager for the DOD active tag RFID roll-out which now impacts the entire supply chain for all the Services. In addition to his Department of Defense past performance, Joe was one of the lead project managers on the Wall-Mart RFID supply chain effort and industry mandates.

Given the addition of Joe's supply chain qualifications to TSG's already extensive resume of past performance, we project 2012 will be a banner year for TSG's AIDC revenue and increased market capture, with all our offering experiencing double-digit growth.



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## THE of A.I.D.C.

### Market Trend Summary:



- 1. Adoption of Item-Level Tracking in Retail Continues to Surge:** TSG expects item-level tracking applications in retail to continue to expand rapidly in 2011, as the solution is adopted in new accounts, scaled and expanded in existing accounts and embraced globally. Growth will also be further driven as RFID continues to migrate toward the point of manufacture.
- 2. Asset Tracking Applications Go Beyond Location:** Asset tracking solutions will continue to expand beyond just providing the location of an asset. They will increasingly be leveraged to provide more information about the asset—its environment, movements and users—as a means to support and enhance business processes, increase asset utilization, support compliance and minimize costs.
- 3. Authentication and Anti-Counterfeiting Emerge as Leading Applications:** Product authentication and anti-counterfeiting applications are anticipated to grow quickly and expand into a broad range of verticals over the next 3-5 years as companies look to create a more secure supply chain. These applications are expected to extend the functionality of existing systems beyond track and trace to protect brands, further improving ROI.
- 4. Solution Convergence Will Provide Key Benefits:** Although there may be overlap in functionality and capabilities, the convergence of RFID, barcode and other AIDC solutions will provide the end-user more actionable business intelligence with little disruption to existing solutions and processes. The combination of these technologies will be particularly beneficial for applications and environments, such as supply chain and inventory management.
- 5. More Revenues to Come From New Accounts:** Although approximately 80% of total global RFID revenues in 2009/2010 were from established accounts that have been evaluating/piloting the technologies for at least 18 months, TSG expects a shift in consumption coming from new accounts to occur in late 2011/early 2012. This tipping point will be a function of favorable pricing, increased packaging of solutions and availability of off-the-shelf solutions, more benchmark and performance metrics, enhanced standards and improved business models.

### In the barcode domain the trends listed by TSG include:

- 1. 2D Imagers:** The Solution Du Jour in 2011: Mobile marketing initiatives and continued investment in both retail and industrial use environments will be key drivers for 2D imaging solutions in 2011. As suppliers expand their product portfolios and 2D imager prices stabilize, TSG expects investment in 2D imagers to outpace laser scanners and linear imagers in coming years. Costing has decreased dramatically the last few years which technologies have advanced. Digital imagers will supplant conventional linear scanners in the years to come.
- 2. Increased Focus on Commercializing Emerging Applications:** TSG Research expects AIDC suppliers to place an increased focus on recruiting and developing independent software vendors to commercialize emerging applications. Smartphones have been a boon to the application developer community and this community will be instrumental in cultivating demand for those AIDC suppliers who make it easy for developers to collaborate and bring solutions to market.
- 3. Making Green by Being Green:** End customers are increasingly aware of the environmental impact of their own operations and are interested in solutions that reduce waste and operating expenses. In response, the AIDC supplier community has removed heavy metals from their products and has begun offering safer consumables with new capabilities, such as dual-sided substrates.
- 4. Growing Investment from Lower Tier Customers in Core AIDC Technologies:** Suppliers have long recognized the revenue potential associated with serving tier 3 and 4 customers, but doing so cost effectively has been a continuous struggle. This is changing—TSG is seeing unprecedented investment in core AIDC technologies by this community, spurred by global standards, the availability of bundled off-the-shelf solutions, new channels and adjusted sales models.