



Summer 2009

# Valtronic View

Volume V, Issue II

## Company Currents



### Join Valtronic in Conversation on Facebook and Twitter

Valtronic Technologies is proud to offer you new ways to stay informed on our activities, the latest in miniaturized electronics and how they affect the industries of our customers. Find us on [Facebook and Twitter](#).

Valtronic will use these tools to share information that may be of interest to both existing and potential customers as well as other partners with whom we do business. Visitors will be able to view the company's newest technology breakthroughs and stay abreast of industry conferences, seminars, tradeshow and speaking engagements.

"We are very excited about these new venues of communication and believe they will allow us to better serve our customers," said Valtronic Technologies Sales & Marketing Director Jim Ohneck. "Providing our customers and partners with the latest news and collaborative opportunities is important to us. We believe the added exposure on Facebook and Twitter will help us to reach more companies interested in our services, whether they are companies in need of complete circuit board development or those looking for expertise in miniaturized electronic assembly" stated Ohneck.

## Industry Update

### Designing Sustainable Medical Devices

Over 45 years ago President John F. Kennedy stated "The supreme reality of our time... is the vulnerability of this planet." These words are being heard and action is being taken seriously by those who inhabit the planet earth. Cradle to Grave also known as Life Cycle Analysis of a product is a growing concern for manufacturer's of medical devices due to influences from consumers, the government and industry groups. The following article sheds light on how some companies are adapting to this philosophy.

[Designing Sustainable Medical Devices](#)

## Conference Corner

**Don't miss Don Styblo's presentation at the MEPTEC and SMTA Medical Electronics Symposium**

[Competing in a Global Market: Manufacturing Miniaturized Medical Devices & Sensors](#)

Donald Styblo, Vice President of Technology

Additional information on the conference:

**MEPTEC & SMTA Present Medical Electronics Symposium:**

Drivers for Technology Health and the Economy

September 16-17, 2009

Arizona State University

[Information on the Symposium](#)

**Visit Valtronic Technologies at MD&M Minneapolis**

Learn firsthand how Valtronic Technologies uses the marvels of miniaturization to help their customers develop less invasive and cutting edge medical devices.

**Enter to Win the Valtronic Chip Guessing Contest and Win an iPod!**

**Conference:** October 20-22

**Exhibition:** October 21-22

**Minneapolis Convention Center Booth 461**

[Register and use promo code BZ for free registration](#)

[or call us at 1-888-291-9422 and we will send you a free pass.](#)

## Tech Check

### Hockey Puck Sized Monitoring Device

Valtronic Technologies miniaturization capabilities made the development of a palm size non-invasive and wireless physiological monitoring system possible. Empirical Technologies developed the technology for the device and a first generation prototype. Valtronic Technologies was called upon to design and build the entire product in a miniaturized form as well as add additional features.



Valtronic packaged a lithium polymer battery, high accuracy pressure sensor, an ARM processor, flash memory, blue tooth communications, and mechanical parts to make the device. Valtronic Technologies solution incorporates electrical, mechanical and pneumatic design processes in the finished assembly, all having their own unique challenges.

Incorporating the mechanical components proved to be complex due to the materials and their form factors. It was integral that the mechanical parts interface directly with the circuit board for the device to work. However given the three dimensional characteristics of these parts, mounting them directly to the board, so they wouldn't interfere with other components on the board proved to be a challenge. Using 3D models in Solidworks and paying close attention to every detail the engineers identified the optimal way of incorporating the pneumatics into the PCB design.

A second challenge was to identify low current consumption components to prolong the charge of the battery. Valtronic utilized its relationships with its suppliers to identify these components and ensure that they were still able to perform the desired functions with complete reliability. Valtronic also optimized the software to ensure that power management goals were met. One instance is in the case of the blue tooth communications which Valtronic added. The blue tooth would drain the battery too quickly when allowed to run continuously therefore an adjustment in the software had

to account for this.

Valtronic wrote all the software and built the entire sensing unit using the customer's proprietary algorithm. The housing for the unit had to be designed and custom built. It was imperative that the sensing unit be assembled to very high tolerances. This unit couldn't afford to lose any pressure as the accuracy of the device would suffer. In the end the design from the inside out had to be tightly packaged, durable, water resistant, and ergonomically feasible. The product's function is to continuously monitor central blood pressure and several other important physiological parameters from the finger. It will show these measurements on an LCD screen as well as communicate them to an outside device such as a PDA, smart phone, or computer. All of this is in the size of a hockey puck.

## Amazing Tales Now Available Online!



Click picture to read Amazing Tales, the stories of Valtronic's most innovative projects.

## Meet the Staff



### **Mary Hudson, Quality Assurance**

#### **What is a typical day like for you?**

A typical day would be conducting inspection procedure for Incoming inspection and out going inspection and testing. By following the Work Instructions and Specifications of IPC-A-600D bare boards and for outgoing inspection following IPC-A-610D specification. I also conduct record retention for incoming and outgoing products along with assessing my coworkers with training or questions they may have.

#### **What is the most important part of your job?**

The most important part is to make sure that the customers receive a quality product, that meet or exceeds their expectations.

#### **How did you get into working with electronics?**

My dad was in school for Radio and TV repair, and I use to watch him and thought what he was doing was interesting and so I went to school at CEI and took some classes and received a degree in electronics. Now I have been in the electronic industry for over 30 years and at Valtronic for over 20!

**What is the most important lesson you have learned in your career?**

That you must have all the proper documentation in order to build or inspect the product. And that you can not sacrifice quality for quantity.

**Lastly, what do you look forward to doing that is not work related?**

Listening to music, jazz is my favorite! I love sports and am an avid Cleveland Cavaliers fan. I like to cook and be with my family. One of my biggest joys is spending time with my grandchildren and creating memories.

**Contact Information**

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