

The news media now a days is filled with stories of the demise of the manufacturing industry and the industrial sector in the U.S. So when I recently heard of a startup company called Loadstar Sensors building sensors for industrial, medical device, automotive and aerospace applications, I expected them to be located in China or India. But I was surprised to find that they are located right here in the heart of Silicon Valley in Mountain View, CA!

automatically reorders the item through the ERP system when levels fall below certain limits.

Other OEM applications include medical devices such as infusion pumps, surgical tools with force sensing, aircraft brake systems, center of gravity calculators for helicopters, fitness equipment, and packaging systems.

Loadstar's technology is bringing innovation to the load sensing industry that has had little change over the

Industrial Innovation in Silicon Valley

In addition, you hear about venture investments into Web2.0 startups and other sexy software, nanotech, clean tech or IT startups with unusual names, but a \$7 million dollar investment into a company named Loadstar Sensors that builds sensors? Very unusual! So I was curious to find out what they are up to!

Loadstar Sensors has developed expertise in building smart sensors that combine sensing, processing and communications into a single compact easy to use package based on its patented capacitive sensing technique. Historically, most sensors tend to be analog sensors with low level outputs in the millivolt or milliamp range. What this means is that one needs to be a deep electronics guru to be able to utilize these low level signals and utilize the sensors in various applications. By providing high level digital USB signal – any one can plug in a sensor in to a PC – like a digital camera – and start measuring!

As a first application of its technology, Loadstar is building sensors for force, load and weight sensing. For example, imagine a robot trying to pick up an egg with its grippers. If it picks it up too hard it will crush it; if it doesn't pick it up hard enough it will drop it! It needs a force sensor to help it pick up an object with the right amount of force.

Another application is an intelligent inventory control system that monitors the weight of items in a bin and the rate of consumption in a manufacturing line and

past fifty years. It is a mature, slow growing multi billion dollar industry with a few large acquisitive players such as Vishay, Honeywell and measurement Specialties and dozens of smaller players who all use the same bonded foil strain gauge technology to build load cells using mostly manual processes. The industry has survived by moving to ever cheaper labor rates first moving from the US to Mexico, then China and now even to Vietnam and Sri Lanka. But even with that, the cost per

unit tends to be very high and the product is too complex and bulky for use in a wide variety of applications.

By using an innovative new capacitive sensing technique and by combining sensing, processing and communications into a single compact, easy to use package, Loadstar Sensors is changing the game. Its sensors provide a high level analog signal or a digital USB signal Loadstar Sensors directly from the sensor. One can hook up a sensor to a PC via a USB port or via a wireless Bluetooth or WiFi connection and start measuring right away. There is no need for

a signal conditioner, data acquisition system or special software such as National Instruments Labview to acquire the data. Just Plug and Sense™!

Loadstar is making an impact in its market space and has racked up customers like Intel, Whirlpool, Boeing, BAE Systems, Johnson Controls, Abbott Labs, MIT, NASA and others over the past six months and is in discussions with several larger OEMs to incorporate its

sensors into interesting products. It is putting in place a global distribution network to enable cost effective delivery of its products and has representation in Germany, UK, Japan, Brazil and Canada and is expanding to India, China, Mexico and Chile in the next six months. Revenue is also growing rapidly and is expected to be in the several million dollar

dozens of paying customers for our prototype sensors! Among them were several large Fortune 50 customers! With this in hand we tried to crack the VC code but were unsuccessful for over a year and got by with small angel investments. Finally one of our customers loved us so much that they made an introduction to Jeff Drazan of Bertram



Div Harish

passion and persistence to overcome the millions of hurdles that we faced early. Jonathan Lim our head of electronics development is a veteran of several successful startups (VINA, Entrisphere) as are King Wong our head of product development (Quinta), K Suresh our head of Operations (Juniper, Cooligy) and Soundar Rajan our head of Software Development. We are privileged to have such a world class team from every part of the world (China, Taiwan, India, Malaysia, Mexico, Phillipines, Germany and the US) contributing to make Loadstar successful. We are looking for good people with creativity and passion to join our team” said Div Harish.

So why build a company in high cost Silicon Valley?

“India’s development is amazing and the talent pool is huge. It is a place we definitely plan to be in. But in the initial stages we needed a unique combination of talent with mechanical engineers, electronics engineers and embedded software developers all located and working together in a collaborative fashion to bring to life such an innovative product. The combination of venture capital, service providers and local customers led us to make this our launch pad. The fantastic weather doesn’t hurt either.”



range in the coming year.

Loadstar plans to enter into other smart sensor applications such as vibration, tilt, humidity, temperature and other discrete and bundled sensors in the coming years. By bringing innovation to a boring, not so sexy part of the industrial economy, Loadstar is trying to build a successful company that dominates its niche space for the next fifty years. How does a company like Loadstar get the interest of Venture investors? It doesn't fit neatly into any of the classic VC buckets.

“Bill Dallenbach, John Schultz and I toiled away in a small garage to build our initial products. Then with \$500 per month investment in Google Adwords, we racked up

Capital (then MD at Sierra Ventures). Jeff had the vision, the experience and contacts to help us get on our way. More recent investors such as Troy Fukumoto of AIG Sun America, Paul Dali of Keynote Ventures and Oliver Grady of Needham are helping Loadstar accelerate its growth. Having good investors on our side has made a huge difference for us.” said Div Harish, Co-Founder and CEO of Loadstar Sensors, Inc.

What has been the key to Loadstar's early success?

“Having a great team early is crucial to get the company going on the right track. We put together a core team that has the experience, the