

## Building Higher Quality Electronics through Outsourcing - North America or Offshore?



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***Richard LaLau - President, Quadrant Electronics Inc (QEI)***

Icarus was aware that when other companies chose a name-brand, offshore vendor to build their first product they were surprised by the effort required to effectively manage arms-length production. For their new product, Nautilus Marine Rescue GPS, Icarus decided to choose a domestic vendor with great success. Most companies go offshore believing that it is a cost-saving option to bring new products to market – but is it?

According to Richard LaLau, President, Quadrant Electronics Inc (QEI), “Building a relationship with your Electronics Manufacturing Services (EMS) partner is critical to effectively bring a product to market from concept to fulfillment. But be careful when assessing your EMS culture, as it makes a big difference knowing how to properly manufacture an electronic product and how parts are bought and sold globally.”

Icarus was very concerned that an offshore manufacturing experience could be more expensive due to unexpected issues relating to a lack of onsite management for their new product introduction according to LaLau. As a result, Icarus chose QEI’s Original Device Manufacturer (ODM) services. “You can cost efficiently build a quality product in North America through better design and partnering with a local manufacturing partner,” says LaLau. “Together with Dorigo Systems, we were able to leverage their contract manufacturing services, coupled with our

design, to seamlessly fit into the manufacturing process, obtaining 99.4% first pass yields for Icarus.”

Outsourcing design and manufacturing is a cost and resource efficient approach to product development. In fact, Dorigo Systems is one of the Pacific Northwest’s leading contract manufacturers of Printed Circuit Board Assemblies (PCBA) and the preferred choice for QEI. According to LaLau, “Dorigo interprets and rapidly prototypes our designs to the highest level of quality – by closely coupling design and manufacturing we can quickly resolve product quality and production efficiency problems – this successful combination enabled Icarus to introduce a new product that has already sold out its first build and is being reordered.”

**We deliver the turnaround times that our customers need**

In the world of high technology, being first to market with a new product can mean the difference between success or failure. Turning your vision into a reality requires engineers to quickly design the next generation of electronic devices. “At Dorigo, we offer precision Quick Turn Electronic Manufacturing Services for a variety of Printed Circuit Board Assemblies (PCBA’s) that ensure prototypes are built right the first time and are cost-efficient to manufacture,” says Paul Vasvary, Business Development Manager, Dorigo Systems. “We deliver the turnaround times that our customers need,

## Top 5 Criteria when Choosing a Design and Manufacturing Partner

1. Fit and style
2. Capability and track record
3. Product life cycle process
4. Stability
5. Cost

whether it's a complex prototype device utilizing the most sophisticated new SMT packages or a production build of a PCA with 4,000+ components."

Starting with a list of requirements, QEI designed and manufactured the Marine Rescue GPS for Icarus. This 400 foot (125 metre) depth rated, emergency use, Marine VHF beacon with Digital Selective Calling (DSC) and Automatic Identification System (AIS) marine protocols is designed specifically for divers. The Marine Rescue GPS has user replaceable batteries, an ON/OFF battery disconnect, and a smart phone user configuration with apps on Google Play and iTunes.

QEI developed the design concept, mechanical components, electronics, test systems, wrote product firmware and completed all protocol verification testing. QEI sources all components globally and Dorigo Systems provides world-class SMT placement services with automated optical inspection. QEI then electrically tests and programs the PCBA, assembles the finished unit and ships in master cartons to Icarus.



*Nautilus LifeLine's Marine Rescue GPS*

## Is Offshore Manufacturing Always the Best Option?

If you want to manufacture between 1,000 and 100,000 units per year, offshore manufacturing isn't always practical states LaLau. Consider the following:

- *Offshore manufacturers often require a 100% deposit to buy, source, build and ship finished goods*
- *Shipping finished goods by sea or air is costly and logistically challenging*
- *Small runs offshore can have variable quality*
- *Offshore vendors are often set up for large runs only*
- *New product introduction often requires onsite representation (at offshore factory) with the manufacturer to ensure manufacturing and quality integrity*
- *Testing new products offshore without a proven test system can miss potential problems.*

In fact, in LaLau's opinion, few offshore manufacturers offer the longevity, stability, capability and quality that Dorigo Systems provides to QEI. "It's the key reason we chose Dorigo Systems as our EMS partner and together we have become the electronic product manufacturing culture for our customers," says LaLau. "It's possible to efficiently manufacture in North America – our success with Nautilus proves it."

**About Quadrant Electronics Inc (QEI):** Quadrant Electronics Inc is an Original Device Manufacturer. (ODM) that delivers beautifully crafted custom electronic products. Based in North Vancouver, BC, Canada, QEI has been using their proven design process since 2006 to develop products with exacting specifications, using high level test and manufacturing plans, resulting in accurate costs for manufacturing. [www.qei.ca](http://www.qei.ca)

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