Quality, economy favor onshore outsourcing

Aug 19 2010

Author: Steven Olson, marketing manager of dB Control

To remain competitive and viable in today's economy, electronic product manufacturers are slashing costs and tossing inefficient operations overboard. Some OEMs may try to navigate today's troubled waters by using offshore contract manufacturers. Unfortunately, the costs savings are not as great as once thought. There is also increasing concern with offshore quality assurance processes, as repair costs and damaged reputation from defective products can sink even the sturdiest company. Plus, the strategic risks of shipping proprietary technology to overseas companies and governments must also be considered.

The good news is that OEMs don't have to 'set sail' to begin with. Outsourcing to US and Canadian contract manufacturers and electronic manufacturing services (EMS) providers is becoming more popular for a variety of reasons, including:

- Less cost fluctuation;
- Easier communication, resulting in better quality control;
- A more secure manufacturing environment.

For the defense and aerospace industry in particular, Canadian and US firms can meet stringent quality requirements and avoid the mountains of paperwork of International Traffic in Arms Regulations (ITAR) that are required for exporting product outside the Western world.

The price is right - Or is it?

While historically the decision to use an offshore contract manufacturer was driven by economics, the cost savings are no longer as dramatic. Wages and operating costs are rising rapidly in the offshoring centers of China, India and other countries. Currencies such as the Chinese Yuan are gaining in value. According to a 2008 Archstone/SCMR survey, between 2005 and 2008 almost half (40%) of manufacturers reported an increase of 25% or more in core direct costs associated with offshore supply materials, components, logistics and transportation. Freight costs alone rose by 135% and the global commodity price index rose by 27%.

In addition to these higher direct costs of offshore manufacturing, there are also indirect costs of managing a project from afar. For instance, there is decreased visibility into the supply chain. Some OEMs respond by maintaining inventory cushions to allow for supply chain delays. But this can result in extra storage space expenses. On the other hand, an increased focus on precise forecasting leaves little room for competitive advantages like customization and providing multiple design prototypes.

OEMs who use sales and operations planning processes to balance supply with demand may find outsourcing to offshore companies particularly challenging. Not all overseas contract manufacturers have the flexibility to produce smaller quantities of product to meet shortened deadlines. Unfortunately, it takes just a few missteps to put an OEM's relationships with its suppliers and customers in jeopardy.

Communication issues exacerbated by language barriers make it more difficult to resolve quality control issues. Time zone differences

Onshore assemblers are often better trained and certified in safety procedures needed to work with high-voltage assemblies

can also be a challenge. For instance, to communicate with a contract manufacturing facility in the Far East, an OEM in the US or Canada must cross 12 time zones.

Returned products increase materials costs, shipment costs, and delivery cycle delays. In some developing nations, resolving these issues involve bribes, kickbacks and protection fees. With today's global economy in such a constant state of flux, the cost of outsourcing to offshore contract manufacturers is not likely to decrease anytime soon.

Easier communication leads to better quality control

Not only is North America becoming a less expensive place in which to manufacture, but interacting with designers, engineers and technical managers who speak a common language and are more familiar with customer requirements and local markets makes for more efficient quality processes. For these reasons, more US technology companies are outsourcing to onshore contract manufacturers and EMS providers. According to a 2009 Technology Outlook by the accounting and consulting organization BDO Seidman, only 42 percent of the 100 CFOs surveyed now have manufacturing operations outside of the US, compared to the 79% who had offshore operations in 2008. When asked the location they might consider for outsourcing in the future, the CFOs most frequently cited the US (22%), followed by China (16%) and India (13%). Canada, Southeast Asia, Latin America and Western Europe each scored around six percent.

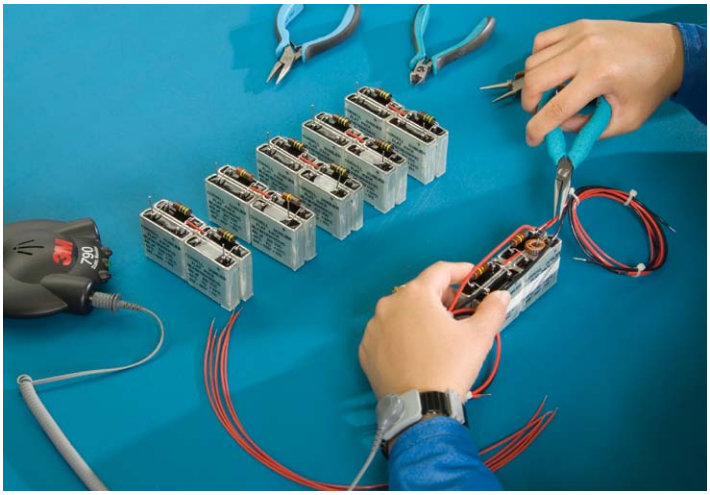
It's definitely easier to evaluate the true size and capabilities of services providers located on the same continent as the OEM. This is important because some large offshore firms will downplay the amount of production flowing through their facilities so that they appeal to smaller customers, too. Unfortunately, these new customers rarely get the

service or attention they deserve. Conversely, small offshore companies often exaggerate their capabilities and gladly accept large orders so that they can use the profit to expand. Missed deadlines are often the result

Secure manufacturing required for government contracts

Outsourcing manufacturing to offshore companies used to be a sure way to dramatically slash costs - sometimes by as much as 40%. But in the rush to save money, some OEMs ended up revealing more of their technology than intended, as Apple recently discovered when the Vietnamese blog Tinhte leaked information on several of the company's unreleased products.

In addition to confidentiality, maintaining high quality and reliability is imperative for products supporting critical defense applications that must meet military specifications. For example, dB Control is a low-volume, highly-specialized contract manufacturer and producer of high-power amplifiers. The company's products must go through rigorous processes such as encapsulation, potting, conformal coating and environmental testing.



From one station to the next, experienced technicians strive for a zero failure rate on finished products.

Among its OEMs services, dB Control provides proprietary chemical mixes and vapor degreasing to clean products prior to encapsulation, cold traps to liquefy gas contaminants produced during the potting process, vacuum chambers to evacuate air from the potting material and curing ovens to harden epoxy or silicone. The firm also provides OEMs with specialized services, such as product testing for extreme environmental factors such as temperature, altitude, vibration and shock and design consulting to significantly reduce product size and weight.

Before choosing a North American contract manufacturer, OEMs should perform an extensive qualification process in three key areas:

- Facilities: evaluate technological strengths, experience of personnel and manufacturing capabilities
- Capacity: Consider provider's experience producing reliable products on time and within budget. Inquire about current production backlog to unveil any scheduling constraints
- Certifications: Ensure that all required certifications (i.e., IPC-A-610, IPC/EIA J-STD-001) are up to date

Benefits of outsourcing still apparent

Outsourcing is a wise decision for many OEMs. This is evidenced by the 25% annual growth of the $120-billion CEM sector, as reported by The Association for Manufacturing Excellence (AME). Outsourcing gives OEMs more time to focus on core competencies and more flexibility due to the availability of a wider range of process equipment. AME also reports that companies that outsource often show a 20% improvement in quality and reliability and a 30% increase in the cost of goods sold.

With such strong benefits, it's no wonder that more companies are considering outsourcing. Only now, they're increasingly considering CEMs on the same continent. Doing so, enables OEMs to utilize manufacturing in facilities with equipment they don't have to maintain, using components they don't have to stock, with specialized services provided by technicians they don't have to train and retain.

By outsourcing CEM needs locally, OEMs can concentrate on core competencies, knowing that quantities of built-to-spec, reliable products will be shipped on time and within budget. Many companies providing contract manufacturing and electronic manufacturing services - especially for the defense and aerospace industries - can be found closer to home, where facilities meet stringent requirements and are equipped to get the job done right without compromising quality.

www.dbcontrol.com

12 Advantages of ONSHORE outsourcing

- **Less cost fluctuation**
- **Better quality control**
- **More secure manufacturing environment**
- **Flexible production schedules for small lots and custom products**
- **Similar health and safety procedures for security, risk mitigation and quality assurance**
- **More efficient communication**
- **Minimal time zone differences**
- **Reduced training of technical personnel**
- **Less time and money spent on shipping and customs**
- **More accurate sales and operations planning**
- **Convenient face-to-face meetings**
- **Ability to focus on core competencies**