

# When to On-shore Manufacturing – Surprising Considerations

By Nat Mani, President & CEO, Bestronics, Inc.

Offshore manufacturing has its place. When a product has matured to the state in which manufacturing processes are static and repetitive and, or, when production volumes are very high, manufacturing in locations with lower labor costs make sense.

But all too often, offshore manufacturing becomes the knee-jerk choice for products that don't meet these criteria and, in fact, onshoring is the far more cost-efficient option. Here are considerations that should be weighed before making a location decision

## Pace of Change/Time to Market

Offshoring takes longer – a lot longer. A good rule of thumb is that anything manufactured overseas door-to-door taking, for example, 12 weeks, will take 6 weeks – or less, onshore. In competitive markets where innovation is driving more rapid product evolution, or when smaller volumes are required to meet specific delivery schedules, time and the risk of longer turnarounds becomes a cost that must be considered.

## Labor

Lower labor costs, the traditional driver of offshoring, bear closer scrutiny. Ever increasing manufacturing volumes, both in terms of finished goods production and scope of product types increase the search for lower cost climates, which in turn, pushes production into more remote regions, requiring longer travel time, less reliable infrastructure and much harsher environmental impact. As well, with more factories, there's more competition for skilled employees – driving high attrition rates. Attrition drives up training costs, or worse error rates. The confluence of these factors, when more closely investigated, often reveals that labor costs in the United States are comparable – particularly for specialized services.

## Inventory Costs

Your inventory and your finished goods will be spending time in freight, sometimes upwards of 20 days and sometimes more than once. Local manufacturing eliminates, or drastically reduces this cost altogether.



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## Product Mix Considerations

Not every product has iPhone type volumes where repetitive processes work well. Products with discrete high mix manufacturing requiring attention to detail, along with technicians skilled in particular process knowledge are critical to producing consistent, high quality products. As mentioned, attrition in offshore factories is much higher than onshore locations and increasingly manufacturers offshore do not want to build these products or signal their unwillingness by pricing these products higher.

## Expertise

In the United States, particularly in technology hubs like Silicon Valley, experts are readily accessible for nearly every imaginable technology or supply chain challenge. There's an infrastructure

for finding such experts and employing them – typically for short term, highly targeted challenges. Overseas, such expertise is very difficult to find, if it exists at all. Or the expertise is confined to a particular factory, closely guarded and requires long contracts and higher labor costs accordingly. Manufacturing invariably involves problem solving. Having ready access to an expert who can troubleshoot a process ahead of production or from the production line removes cost and risk in finished good viability.

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## Employee Impact

Sending your valuable engineering resources away for weeks at a time impacts your day-to-day operations. It also affects your ability to react when unforeseen issues arise. Technology transfers take time in the best of circumstances. To do it well requires the focused and onsite attention of often your most critical team members. And, the third time you send an employee to a location that takes days to reach, has very poor air quality, requires armed escort not to mention the normal challenges of language and time zone - versus a drive nearby - he or she might just reconsider their employment with you. As the competition for talent intensifies, travel-driven attrition is a consideration.

## Pressure Valve

Moving a team or a manufacturing line out of your factory can be an important pressure valve for your resources, both from an employee and facilities perspective. Moving an older product, perhaps approaching end of life, or with very small volumes out of your facility to make room for more profitable products or critical prototyping operations is often a more efficient and cost-effective alternative to continuing operations internally – or offshoring - a diminishing or low margin product.

## Proximity

The value of spontaneous or quick response collaboration can be overstated - particularly in prototyping stages. Being able to drive over to visually check a line, or evaluate an alternate part logically results in accelerated design and manufacturing refinement. The

best manufacturing results from partnership, in which the designers, engineers, and manufacturing experts can collaborate instantly and without obstacles of any kind.

## Shipping and Expediting Costs

While oil costs have dropped, transportation volumes continue to increase. According to pricing experts, such supply and demand pressure, alongside continued port and landside congestion, will keep both air and sea freight costs high with frequent spikes during high volume seasons. And, when your production volumes unexpectedly increase, or inventory is delayed, or when you find you must ship products just ahead of the Chinese new year, expediting costs can quickly vaporize your margins, unexpectedly.

## The Unexpected

And finally, here is the big 'gotcha' of overseas manufacturing. Tax rates change, customs can be sketchy, floods occur, infrastructure is unstable, these are just a few of the realities of manufacturing in third world locations. Fuzzy commission and royalty practices may have a considerable ripple down effect on the cost of goods and tax basis. While many overseas factories rival the technical infrastructure of their U.S. counterparts, they are still located in less stable regions – and those higher-end factories come with higher labor costs. In the U.S., protective structures are well known and enforceable. Only you can know and monetize your appetite for the unexpected. It should be budget line item.

The trend toward on shoring is analogous to the current trend toward very local farming. While there are price advantages in produce farmed overseas, or even in the next state, consumers – and retailers are demanding more immediate access and a more predictable food chain. Co-locating the farm, the farmers, the buyers, and the consumer in closer proximity is becoming more cost-effective for some food products.

Many public entities, such as the city of San Jose, and private organizations such as the San Jose Chamber of Commerce are commissioning studies on comprehensive landed costs, which incorporate all of the above considerations and more. Using the findings and criteria of landed cost estimations are a good way to crosscheck assumptions and create a long-term decision structure for manufacturing site planning.

At Bestronics, we've taken great pains to develop a manufacturing solution that is geared towards local manufacturing leveraging the natural advantage of being "fast, friendly, and flexible." Our designers, engineers, and manufacturing process technicians work side by side with customers to anticipate and solve manufacturing challenges. We leverage the tremendous talent pool in the Silicon Valley, along with trusted technology and supply chain partners to help customers affordably manufacture on-shore for the long term. ☺

