

Successfully Navigating the Nearshore Movement

CASE STUDY

Several companies achieve competitive costs with nearshore solutions, plus the benefit of having increased flexibility and lower risks.

North American OEMs considering the best electronics supply chain solution for their businesses have many options. As product lifecycles shrink, the importance of architecting a highly responsive supply chain increases. Achieving a supply chain to best meet their needs requires companies to answer questions such as:

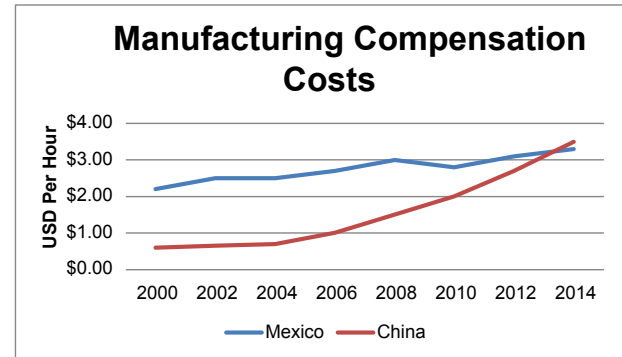
- What is my product lifecycle? And how much business flexibility do I need?
- Should we insource or outsource?
- What location (off-shore, near-shore, on-shore) provides optimal balance of cost, risk, speed, and flexibility?

There is no single answer that fits every scenario; but, some trends have certainly shifted for those making moderate-to-high-complexity products sold into the North American Industrial and Medical market sectors. Ten years ago, more frequently, the de-facto answer for most OEMs was to build electronic products in Asia to be globally competitive. But since then, China has experienced significant labor cost and wage inflation continuing an upward wage trajectory faster than most competing markets.

Nearshore manufacturing options offer a practical alternative for controlling costs and minimizing supply chain risks for OEMs. The goal should be the lowest total landed cost that achieves the required business flexibility.

EVALUATE SUPPLY-CHAIN OPTIONS USING TOTAL LANDED COST (TLC)

For each individual company, it is important to run an optimization model that determines the lowest total landed cost based on labor, material, transport, regulatory costs, freight, and taxes. Companies also need to consider that fuel prices and security concerns can drive up logistics costs. As the labor costs in China rise relative to Mexico, the landed cost into the US market for many products makes Mexico a better value. The proximity of Mexico to the United States and Canada is especially advantageous in reducing logistics cost and transit times.



CONSIDER THE “SOFT COSTS”

Nearshoring offers companies certain advantages; including the comparative ease of doing business in the same or near time zone, with the supply partner that can conduct business in English and with many culture similarities. Company’s employee quality of life is better when they can have conference calls with the nearshore manufacturing partner during regular work hours, as opposed to late into the evening when the Asia supply base starts work. Trips to the factories, especially in Mexico border locations, can be made day trips rather than week-long trips when traveling to Asia; which are helpful to achieve a healthier work/life balance.

Mexico nearshore solutions provide access to low-cost labor and border-based manufacturing facilities that offer logistics simplicity, proximity, language, and cultural closeness to the US market enable ease of doing business.

NEOTECH AS A NEARSHORE PARTNER

NEOTech operates several manufacturing locations across the U.S., Mexico, and China. NEOTech’s Otay Mesa sites located in Tijuana Mexico and Agave sites located in Juarez Mexico all deliver nearshore solutions. As well, they offer close-proximity to US logistics hubs – both just a few miles from the U.S. border. The NEOTech engineering, supply chain, and operations specialists work closely with current and prospective customers to evaluate their project needs and architect solution options that best align to each company’s objectives.

To make nearshoring successful, companies must choose the right partner; one who has experience navigating the ins and outs of nearshoring, as well as sharing the goal of manufacturing quality products in the most cost-effective manner. Below are examples of NEOTech successfully implementing nearshore solutions in our Otay Mesa and Agave sites for key customers.

CUSTOMER SOLUTION EXAMPLE “COMPANY A”

A medical device leader in patient monitoring products sought help from NEOTech to return their electronics manufacturing to nearshore after an onerous Asia experience. A technology leader in hospital patient monitoring solutions had sourced their PCBA with a large Tier 1 EMS with manufacturing in Malaysia. The products were complex and required an enhanced PCBA-level functional test – well beyond simple validation of manufacturing workmanship – to ensure the products met the Company A’s unique and safety-critical requirements. The long-distance supply chain caused frequent business disruptions for the Company A when faced with NPI launches, ECO implementation, and even minor quality problems.

NEOTech proposed a nearshore solution at our Otay Mesa site, with the location just across the Mexico border, and just a few hours' drive from the Company A's development location. Being in the same time zone enabled the Company A team members to conduct calls with their EMS counterparts during business hours instead of interrupting family time with calls that extend into the evening. Company A visits to the manufacturing site were day trips instead of expensive, time consuming weeklong trips and 15+ hour flights. Additionally, outbound logistics and transit time from NEOTech to the box build location became one day vs. many weeks, reducing logistics costs and needed inventories to buffer disruptions. Finally, NEOTech's test development team created a dedicated test rack system capable of achieving the Company A's test requirements and a unique advanced test fixture design that has the needed capability to substantially increase the test measurement precision well beyond what was previously available on the market.

Our Otay Mesa nearshore solution offers similar landed cost vs. the previous Asia solution. But, today, Company A experiences fewer disruptions in supply, faster time to market with newer products, and a better work environment for Company A employees managing the EMS supply base. Additionally, they have benefited from having a test development partner they can rely upon to extend the reach of their internal product development organization.

CUSTOMER SOLUTION EXAMPLE "COMPANY B"

Company B is an American OEM of backup power products for residential and industrial markets, which needed improved time-to-market as well as a competitive and flexible manufacturing solution. NEOTech's Agave site provided the solution. Previously, Company B used an Asian EMS to produce their wireless remote monitoring and control devices. The extended supply chain distance from the key market in the US caused issues with flexibility and service levels. A next-generation redesign upgrade also was behind schedule.

Our team proposed a solution that combined both engineering services to assist the customer finalize a new design revision to the wireless interface and a nearshore manufacturing solution in the NEOTech Agave site in Mexico. We initially conducted a DFM review on the new product. Then prototypes of an improved design were built with additional VAVE recommendations to validate the needed changes – and delivered only 10 days after receipt of the initial design PO. Additionally, NEOTech collaborated with an industrial design partner to rapidly produce mechanical samples and enable the completion of the design, and help get the program schedule back on track. The Agave final production location enabled significantly more flexibility and increased service levels with its close-proximity to the US market.

Company B found that using an EMS partner that can closely collaborate with their US-based engineering team and can help them execute rapid design cycles with quick turn PCBA and mechanical sampling capabilities accelerates their time to market. Additionally, having a close connection to a nearshore manufacturing solution provides a compelling fit to their business.

CUSTOMER SOLUTION EXAMPLE "COMPANY C"

Company C is a large, diverse North American laboratory equipment OEM that was seeking help consolidating PCBA supply across its divisions. NEOTech's Otay Mesa manufacturing facility helped the company increase flexibility and cost savings. Company C originally had numerous US-based production locations that all needed low-volume/high-mix PCBA suppliers, with each location managing their own local sourcing - mostly at small local EMS companies. They faced frequent obsolescence-related supply disruptions because their products had very long product lifecycles.

Also, some of their products were technically complex to build, sometimes beyond the processing skill of the small tier EMS providers.

NEOTech's solution was to consolidate the PCBA business from eight customer divisions into our Otay Mesa site, with over 250 active assemblies. Later, it was expanded to include 12 different product divisions. Extensive engineering and supply chain actions were taken to mitigate obsolescence issues with identification and focus on "at risk" parts and increase materials availability by increased use of distribution VMI. Additionally, NEOTech moved more than half of the products to a demand-pull fulfillment model to increase flexibility. Also, sourcing support was offered to migrate the customer AVL to NEOTech preferred suppliers, which decreased materials costs. Finally, we expanded value further by adding the manufacture of higher-level sub-assemblies and box build. A unique NEOTech transfer process was used that reduced transfer risk with an onboarding "pull" team ensuring tribal knowledge was documented and transferred seamlessly to the customer.

Today, Company C is enjoying improved on-time delivery performance and flexibility with a much more competitive cost model vs. the prior solution. The nearshore solution at our Otay Mesa facility provided the best combination of competitive costs with business flexibility, and with much lower soft costs associated with managing an outsourced supply chain versus going to Asia.

CONCLUSION

Asia sourcing for many medical and industrial products destined for North American markets is losing favor rapidly amongst companies for many reasons including rising labor and transportation costs, painful disruptions due to lengthy supply chains, and lack of IP security. Instead, manufacturers are bringing production closer to home. Nearshoring is today's solution because it allows companies to reduce supply chain risk while streamlining operating costs. Additionally, when you choose the right full-service product realization partner with cost effective nearshore locations your new product time-to-market can accelerate. Companies like NEOTech are partnering with OEMs to provide nearshoring experience and solutions that result in increased flexibility and cost savings.

China manufacturing still offers attractive and compelling solutions for high velocity supply chains as there is significant capacity and economy of scale of the manufacturing infrastructure to support these products. Also, the China and Asian markets themselves are rapidly growing and there are many products where the landed cost in Asia gives preference to locally produced goods.



Electronic Manufacturing Services exceeding the quality requirements of our world's most complex products. NEOTech – an industry-leader specializing in high-reliability programs for the Aerospace and Defense, Medical Device, and Industrial Technology markets.

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