

Charlie Barnhart

& Associates LLC

China vs. Mexico

An Objective Comparison for Midmarket Electronics OEMs

By Eric Miscoll
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EXECUTIVE SUMMARY

The mass migration of electronics manufacturing from other global regions to China that occurred over the past decade was driven by OEMs' desire to lower their product costs. Throughout the last decade China offered both low labor rates and an endless army of workers happy to toil away for those wages. While this situation may have benefited large OEMs producing products in high volumes, it proved not to be the ideal solution for many mid-market OEMs based in the USA.

Concurrent with the global recession that began in 2008 came a rethinking by OEMs of their existing cross hemispheric supply solutions caused by skyrocketing fuel costs and economic uncertainty. This generated an increased focus on Total Cost of Outsourcing (TCO) analysis by OEMs and EMS instead of the prior focus on low labor rates, and has resulted in a return to a regional approach to manufacturing by mid-market OEMs for whom China was proving too costly and inefficient. This return to regionalization has been evident in Europe, Asia, and North America. The primary beneficiary of this trend in North America has been the EMS industry in Mexico.

China and Mexico both possess many world-class manufacturing facilities capable of producing any electronic product being designed today. The question therefore is not one of capability but fit. Which country best fits the manufacturing needs of a particular OEM? For OEMs selling high volume products in the 3C's (consumer, computer, communications) sector the answer is undoubtedly still China. For mid-market USA based OEMs selling lesser volume products the answer has become less clear. Many of these companies have been caught up in the China hype only to have become frustrated. This report is written for those OEMs.

While there are many market research reports covering the various regions, sectors and issues related to the global outsourced electronics manufacturing industry, there exists no analysis directly comparing China and Mexico for midmarket OEMs based in North America.

This report provides an analysis of electronics manufacturing in both China and Mexico and includes:

- An overview of the industry in both countries and the business models available to OEMs for manufacturing in each country.

- Assessment of the manufacturing capabilities in both countries across a typical manufacturing life-volume continuum based on survey responses from OEMs.
- Issues and challenges for manufacturing in either China or Mexico.
- How to conduct a proper Total Cost of Ownership (TCO) analysis, including two industry case studies.
- List of useful resources for electronics manufacturing in China and Mexico.

This report is intended to be a helpful resource for any mid-market electronics OEM interested in exploring manufacturing options in either China or Mexico. This research was supported in part through our sponsor The Offshore Group.

Charlie Barnhart & Associates LLC is available to support OEMs with further discussion and exploration of manufacturing solutions in either China or Mexico. Please contact us at www.CharlieBarnhart.com.

CHAPTER 1 - PROJECT RATIONALE & RESEARCH METHODOLOGY

1.1 PROJECT RATIONALE

Charlie Barnhart & Associates LLC (CBA) initiated this research project for the following reasons:

- In 2005 Charlie Barnhart wrote a column titled “Salsa and the Golden Dragon” (see Appendix 1) in which he presented an assessment of the manufacturing capabilities of both China and Mexico across a typical manufacturing life-volume continuum for a USA or Canadian-based OEM. CBA believes that with the changes in the global electronics manufacturing industry that have occurred in the years since that original column was written it would be interesting and insightful to revisit the issue.
- While there exists a plethora of market research reports covering the various regions, sectors and issues related to the outsourced electronics manufacturing industry, there exists no analysis directly addressing the China vs. Mexico comparison for midmarket OEMs based in North America.
- Our research has identified a trend of electronic OEMs returning to a regional approach to their manufacturing. Regionalization is defined as when OEMs build their product in the region into which their product will be sold. In other words, they choose to “build in region for region.”
- Following the dramatic shift in electronics manufacturing to China over the past decade in pursuit of lower assembly costs, including for LV/HM (low volume/high mix) assemblies, there has been a noteworthy return to a regional approach by some North American based OEMs that is benefiting Mexico.
- CBA’s *Outsourcing Navigator* data supports the cost effectiveness of a regional approach to electronics manufacturing for certain types of programs.
- Our focus is on North American based mid-market OEMs whose products may not be high volume or low mix, the profile that still best suits China, and for whom a Mexico manufacturing solution has become more attractive.

1.2 RESEARCH METHODOLOGY

This research project was executed by:

- Secondary research of the electronics manufacturing industry in China and Mexico.
- Primary research on cost and pricing practices of the EMS/ODM industries in China and Mexico.
- Survey of OEMs worldwide on their views of the current manufacturing capabilities in both China and Mexico.
- Solicitation of opinions on this issue via several groups in LinkedIn.

1.3 DEFINITION OF KEY TERMS

EMS Tiers: The EMS industry is often divided into four Tiers based on revenues for comparison and analysis sake. Generally speaking, Tier 1 refers to the top 10 EMS, Tier 2 refers to #11-25, Tier 3 refers to #26-50, and Tier 4 refers to everyone else.

Lot Size/Mix: CBA uses the following definitions to differentiate among the various lot/mix sizes:

- Continual Flow = 1 time set-up for entire project
- High Volume/Low Mix = Each PN (part number) runs for >15 shifts
- High Volume/Moderate Mix = Each PN runs for >5 shifts
- Moderate Volume/Moderate Mix = Each PN runs for > ½ shift
- Moderate Volume/Low Mix = Each PN runs for > 1 shift

Midmarket: For the purpose of this report CBA defines midmarket as annual revenues in the range of US\$100M to \$2B. We recognize that this is a large spread, but it also serves to include the types of OEMs that we believe would benefit from this report's data and insights.