



Future of Electronics Manufacturing in North America

Impact on Connectors

Bishop and Associates has just released a new six-chapter research report, *The Future of Electronics Manufacturing in North America – Impact on Connectors*. This new report profiles the North American electronics manufacturing industry and its electronic connector market. Some elements of this report were several years in the making, drawing on our analyst's long experience in the electronics industry, North America's multiple phases of off-shoring, outsourcing, and involvement in government/industry initiatives that have attempted to address the globalization issue as it impacts the domestic manufacturing market, yet strengthens North American OEM's global competitiveness.

The report's foundation includes eight years of experience compiling the Connector Roadmap with the International Electronics Manufacturing Initiative. It also includes extensive experience in the industry, including NIST's Advanced Technology Program, the Department of Commerce and Census Bureau data, IEEE National Innovation Forum, DARPA, and other U.S. competitiveness initiatives.

Main Points of Interest

- Continuing trends in outsourcing and off-shoring.
- Growth in emerging markets, particularly China.
- Low-to-negative growth in some domestic markets (based on where equipment is manufactured).
- Issues relating to domestic manufacturing infrastructure.
- Detailed connector industry forecasts and cyclical scenarios.
- Potential government and private sector actions.

This report is a snapshot of the huge, complex North American electronics manufacturing market and the connector industry, which are operating in an increasingly global marketplace, and insight into how we can strengthen North American markets going forward. It is a non-agenda-driven analysis, which points out areas of concern in manufacturing, and includes concerns about the future of domestic design, which is linked to manufacturing.

The report should help those involved in the electronics industry better understand these trends. Interested parties include OEM, EMS, ODM, electronic component manufacturers, and specifically, connector suppliers.



This is also good information for the investment community, strategic planners, government personnel, and managers and executives with interests in the future of this strategically important industry.

The report includes detailed forecasts of North American, regional, and global connector markets, with an emphasis on North America, China, and Asia-Pacific. It details, as a strategic example, Taiwan's transition from an upstart to an electronics design and manufacturing powerhouse, to a country strategically linked to outsourcing and electronic assembly in China. This is supported by strong industry-government cooperation in the planning process, with a very successful track record. Taiwan dominates several electronic product categories, often behind-the-scenes for major OEMs.

Areas of analysis include:

- Selected Key Electronic Equipment Manufacturers (OEMs), with estimated connector inputs.
- Top 100 Electronic Manufacturing Services Providers (EMS), with estimated connector inputs.
- Original Design Manufacturers (ODM).
- Taiwan manufacturing examples.
- Top 25 semiconductor companies.
- Top 50 printed circuit board companies.
- Top 25 North American connector companies and Industry supply chain Issues.
- Regional and Global connector industry forecasts, focusing on North American, including 10-year trends.
- Cyclical analyses, including possible recessions in 2008 to 2009, and later.

The domestic connector industry has seen a trend toward lower, even negative, growth as more and more equipment assembly is outsourced and moves off-shore to low-cost assembly locations, such as China.

This trend accelerated during and after the deep recession of 2001-2002, with North America still lagging other regions in recovery. Several factors converged to make this happen, including perhaps the worst downturn ever. These factors included a telecom bust in 2000, 9/11, industry consolidation, increased foreign competition, outsourcing, and off-shoring.

Markets at the apex of the off-shoring movement include consumer electronics, computer/peripheral, and communications. Other markets have seen less exposure, but off-shoring trends are emerging in industrial, instrumentation, home appliances, automotive, and other market segments. This has occurred as the EMS industry grows and takes an ever-increasing share of OEM manufacturing. Thus, the new business model in electronics manufacturing is to outsource manufacturing to reduce costs and headcount, while focusing on markets and the customer. Some industries have been more seriously impacted (e.g. bare boards, PCB assemblies including motherboards, laptops, desktop PCs, PC servers, computer peripherals, mobile phones, and PDAs). Each major market segment is analyzed, postulating domestic vs. off-shoring market trends.



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