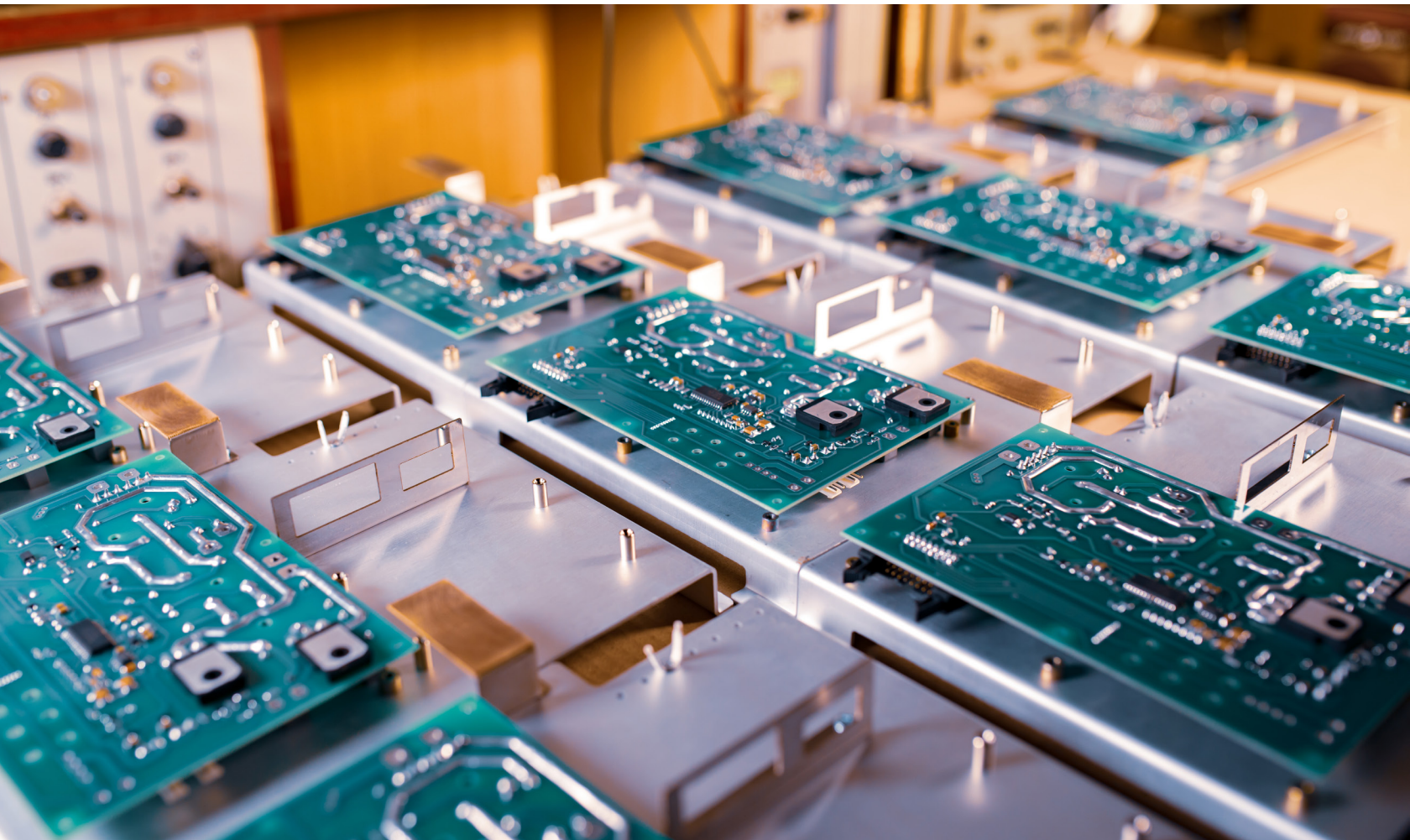


MARKET INSIGHTS

Managing Supply Risk in Electronics Manufacturing

How to Effectively Hedge Risk in Asia



INSIGHT
SOURCING GROUP

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EXECUTIVE SUMMARY

Because of supply failures during the pandemic and increasing geopolitical pressure, high-tech electronics manufacturing relationships in China and Taiwan are facing increased scrutiny. This change increases the importance of managing downstream suppliers, in addition to contract manufacturers.

As recent headlines have highlighted supply failures originating from political tensions and international zero-covid policies in Asia, corporations are starting to move electronic manufacturing out of China and Taiwan. This movement has led to growth in markets like Vietnam and Mexico. However, as executives begin to explore this shift, they are increasingly encountering unforeseen challenges mitigating risk and executing their supply diversification initiatives.

In this guide, we will identify potential risks within your supply base, as well as ways to develop and execute strategies that will transform and strengthen your supply chain.

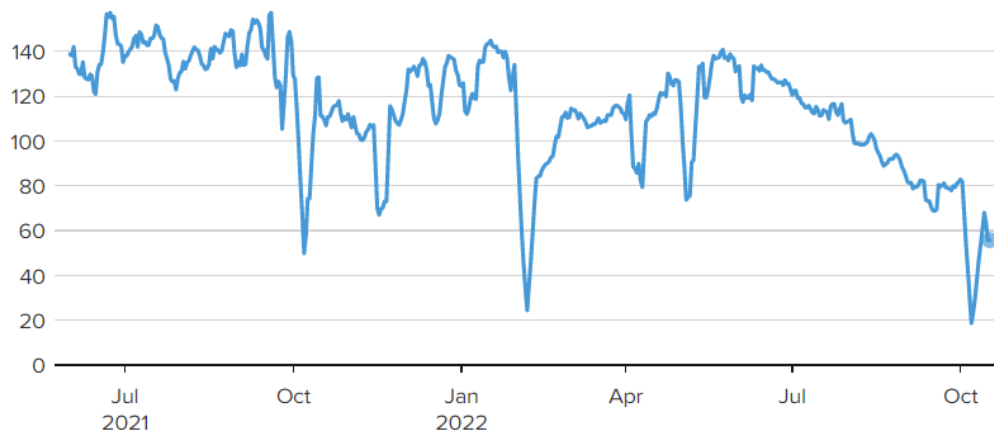


INTRODUCTION

While before the pandemic manufacturing commerce was moving to countries like Vietnam, Malaysia, Bangladesh, India, and Taiwan, China's zero-covid policy has accelerated the trend significantly to the erosion of the country's long-time trade dominance.¹

China's overall volume of exports to the U.S. declined rapidly for much of 2022 (Figure 1). Contributing to this loss, tech giants like Apple and Google are starting to find supply alternatives.²

Figure 1: Ocean Bookings for Cargo Ships from China en route to the U.S. are down significantly.



Source: FreightWaves SONAR Booked TEUs Seven-Day Index. CNBC. 2022.

As you explore right-shoring and supplier diversification, set your focus on risk mitigation and cost optimization. Take a phased approach to your supply base transformation, beginning with an evaluation of your existing suppliers, vetting and exploring potential suppliers, and finally planning and executing the change.

¹CNBC. China, 'factory of the world,' is losing more of its manufacturing and export dominance, latest data shows. <https://www.cnbc.com/2022/10/20/china-factory-of-the-world-is-losing-its-manufacturing-dominance.html>. 2022.

²The New York Times. <https://www.nytimes.com/2022/09/01/business/tech-companies-china.html>. 2022.

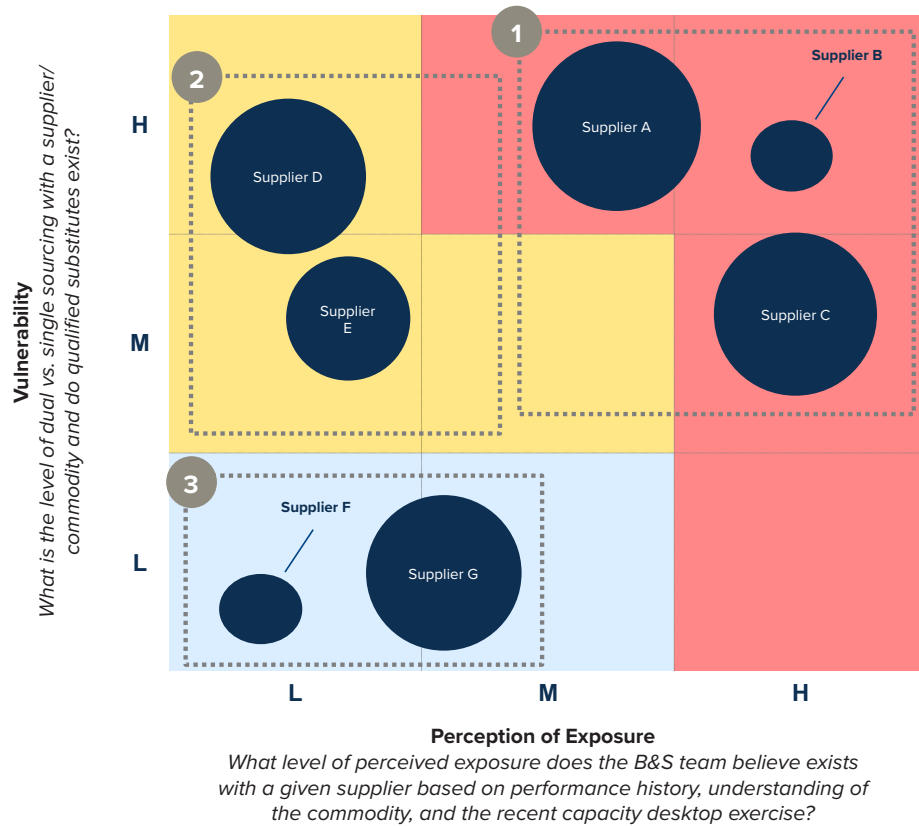
HOW TO RIGHT-SHORE AND DIVERSIFY SUPPLIERS

1

EVALUATE YOUR EXISTING SUPPLY BASE

Conduct a Supply Chain Risk Assessment to explore vulnerabilities and constraints within your supply chain at the commodity level. For example, segment your parts and identify the associated risks, from sole-source, lead time, defect rate, country exposure, lead time and delays, etc. Also conduct this analysis on a supplier level. Insight Sourcing Group uses a Supplier Prioritization Matrix to understand a company’s level of exposure based on vulnerability and perceived exposure (Figure 2). Then, oversee supplier visits to validate your understanding of the constraints, build a tooling database, and collaborate to identify solutions for capacity concerns (e.g., develop an inventory program).

Figure 2: Sample Supplier Prioritization Matrix



2

CONDUCT A MARKET ANALYSIS

Depending on the data gathered from your supplier scorecard evaluation process, you may need to identify alternative suppliers for some commodities.

Focusing on risk mitigation and cost optimization, compare the costs and logistical advantages in China against that of other countries. As you are scanning the market and identifying suppliers for critical components, evaluate the suppliers' financial and quality performance, as well as their appearance on import records.

Evaluate global sourcing.

Identify global alternative sources of supply for savings and assurance. Review and assess the risks pre-purchase as well as post-purchase, then rank countries by risk to develop a strategic mitigation plan.

Evaluate near-shore sourcing.

Explore near-shoring solutions to tap into lower tariffs, improved lead times, and cost-effective logistics.

Take your time, as this process is more of a long-term decision tree than a single supplier change.

3

IDENTIFY AND EVALUATE POTENTIAL SUPPLIERS

Begin to establish points of contact with potential suppliers and generate interest in the opportunity to win your business. Then conduct rapid Requests for Information (RFI) to validate the suppliers' ability to meet your business objectives and requirements. Afterward, consolidate and synthesize the RFI findings to enable your strategy development.

Be sure to evaluate suppliers on the same set of factors and priorities. For example, explore several value creation levers that will mitigate risk, lower cost, and instill resiliency where capacity and performance issues may arise.

4

PLAN AND EXECUTE YOUR SUPPLY BASE TRANSFORMATION

Create a plan of approach that mitigates risk, lowers cost, and instills resiliency in your supply chain. Develop strategies that fortify against supply chain vulnerabilities with these strategies that reduce risk and optimize cost:

Introduce alternative suppliers.

After identifying alternatives for key at-risk components, shift volume away from incumbents that are not fit to meet your long-term objectives and move toward newly qualified suppliers.

Enable dual sourcing.

Boost redundancy *within* your supply base to increase optionality, by identifying a secondary source for at-risk components, where manufacturing capabilities currently exist, and supplier qualification is not required.

Consolidate volume.

Reduce or eliminate dependency with at-risk suppliers and shift volume to already qualified incumbents. Consolidating volume with incumbents also reduces the time and resources needed to qualify another supplier.

Collaborate with suppliers.

Work with incumbents to solve supply constraints in order to meet your demand requirements. Developing strategic supply agreements facilitates both more secure supply and protection from price hikes.

For example, Insight Sourcing Group develops a value capture opportunity roadmap for clients that drives continuity and reduces cost, while balancing ease of implementation and speed to value. Our value levers include demand optimization, strategic incumbent negotiations, global sourcing, tail spend and SKU rationalization, Value Analysis / Value Engineering, and “cut-to-size” insourcing. These prioritized initiatives can be executed in parallel to expedite your value capture.

A CASE STUDY IN RIGHT-SHORING

Industry: Electronics/Medical Devices

Company Profile: Medical Wearable Device Manufacturer

Challenge: The client needed to mitigate the risk associated with contract manufacturing relationships in China and EMEA, which was the client’s single source of supply in the key areas of lithium batteries and microchips.

Results: Insight Sourcing Group recommended selecting an additional contract manufacturer with different downstream supplier relationships and a primary location outside of China and Taiwan to share volume with the incumbent.

On average Insight Sourcing Group clients:

- Spend 20% less than market/category benchmarks
- Meet their supplier diversity goal within 12-14 months
- Achieve a 10% - 15% year-over-year reduction in professional services spend

CONCLUSION

Moving manufacturing out of China and Taiwan is a multi-year process that requires a comprehensive roadmap to introduce other countries into the mix. Supply chain diversification requires long-term strategy and expert insight into the global economy.

For instance, chip production will likely remain in Taiwan for decades to come because the energy consumption requirements and internal infrastructure takes twenty to thirty years to develop.³ Also, as the U.S. and Europe decrease their reliance on China, the global superpower still offers potential manufacturing upsides, including an established infrastructure and workforce.⁴ At Insight Sourcing Group, we have also seen China and Taiwan offer lower prices across a myriad of Electronics and Fabrication businesses, indicating that there is still room for in-country diversification efforts.

As you diversify your suppliers to mitigate your risk in electronics manufacturing, consider not only cost, but every factor that can impact your supply chain, including potential production bottlenecks, industrial infrastructure, labor capacity, transportation time, geopolitical influences and fluctuating tariffs.⁵

While supply chain changes require significant resources in the short-term, the long-term benefits and savings associated with a more resilient supply chain far outweigh the initial cost.

³ NC State University. <https://scm.ncsu.edu/scm-articles/article/the-china-taiwan-semiconductor-question>. 2022

⁴ Morgan Stanley. <https://www.morganstanley.com/ideas/slowbalization-global-supply-chain>. 2022

⁵ Nikkei Asia. <https://asia.nikkei.com/Spotlight/Caixin/How-bad-is-China-s-manufacturing-exodus>. 2022

MEET THE AUTHOR



Nate Korn
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As a Senior Associate and member of the Direct Materials sourcing practice at Insight Sourcing, Nate drives EBITDA growth for Private Equity and F500 enterprises. He has 5+ years of experience in fast-paced, high stakes environments and has delivered consistent savings of 5% - 10% across raw materials, manufactured components, and contract manufacturing. His strategic sourcing experience is concentrated in Consumer Electronics, Industrials, Automotive, and Chemicals. He has been part of the core team at Insight Sourcing building long-term category strategies and deploying value creation levers such as best cost country sourcing, should-cost modeling, and supplier negotiations.

Prior to ISG, Nate was a consultant at Impendi and GEP, where he worked with F500 and Private Equity enterprises to drive procurement synergies in M&A and Divestiture environments through strategic sourcing. He lives in New York, NY.

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DIRECT MATERIALS CENTER OF EXCELLENCE

Our Directs Practice has helped clients achieve an average of 5-10% in Direct Materials cost reduction in less than a year. We can complete Value Identification in an average of 4-6 weeks, followed by 10-16 weeks to execute Value Capture.

Our services include:

- Developing robust multi-year category strategies that outline feasible, calculated value creation levers that blend both cost savings and supply resiliency.
- Maintaining flexibility in strategic execution to ensure we achieve your critical business needs and objectives.
- Expanding your cost modeling capabilities by providing training and leaving behind bottoms-up cost build-ups that you can leverage to gain a better understanding of your unique cost structures.
- Identifying alternative competitive suppliers across the globe to diversify your supply chain, while maintaining a low total cost of ownership.
- Helping your organization collaborate cross functionally by acting as the central nucleus of the supply chain. (For example, we'll harness the capabilities of Design and Engineering to conduct VA/VE efforts that reduce cost and complexity, while maintaining total value to the customer.)

ABOUT INSIGHT SOURCING GROUP

Insight Sourcing Group is the premier professional services firm in North America exclusively focused on strategic sourcing, cost optimization, and procurement operational transformation.

Founded in 2002, Insight's capabilities are designed to accelerate impact through the expertise of its 250+ procurement experts, its market-leading Category Center-of-Excellence model, and practices specializing in Private Equity, Supplier Diversity, Energy Management, and Sustainability.

Learn more about reducing your Direct Materials spend at www.insightsourcing.com.



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