

THOUGHT LEADERSHIP

PUBLISHED 2Q 2020

Supply Chain Diversification During COVID-19

Manufacturing with the ASEAN “Mighty Five”

May 5, 2020

For manufacturers across industries, the ongoing COVID-19 outbreak has highlighted the potential risks associated with a one-source, China-based manufacturing practice. Faced with fluctuating costs and increased domestic competition, many manufacturers of electronics, semiconductors, automobiles, and textiles are accelerating their efforts to diversify supply chains within the Association of Southeast Asian Nations (ASEAN). While supply chain diversification can offer reduced tariffs and workforce expansion among other benefits, it is not without challenges. Manufacturers seeking to expand operations into the “Mighty Five” (MITI-V) nations of Malaysia, India, Indonesia, Vietnam, and Thailand should take steps to understand and mitigate the potential risks associated with diversification into ASEAN regions. Proactively doing so can help manufacturers optimize the financial and operational benefits of manufacturing expansion.

Different Countries, Different Opportunities

Each country has different advantages and disadvantages for transferring manufacturing lines. For example, Vietnam is a top choice for relocating textiles, semiconductors, and electronics manufacturing in ASEAN regions. Major strengths include lower trade tariffs, conducive taxation, and a young, healthy, yet relatively low-cost labor force. In recent years, both Nike and Adidas have shifted footwear manufacturing to Vietnam. These facilities reportedly produce more than twice as many shoes as China, providing a clear example of how Vietnam’s development is redrawing the Asian manufacturing map.

But while the fastest growing sector in Vietnam is electronics and computers, most companies only engage in the lowest midstream activities of the electronics value chain and depend on imported components. For example, ON Semiconductor and Intel have a presence in Vietnam, but in both cases, their facilities are limited to product assembly and testing. Product manufacturers

with upstream activities in Vietnam can face multiple challenges, such as incomplete technology transfer, lack of skilled labor for re-tooling critical equipment, and supply chain complexity.

In contrast, Thailand is better positioned to capture high-value manufacturing opportunities in the automotive and electronics industries. The electronics industry currently represents the largest percentage of Thailand’s exported goods, valued at \$55 billion USD. This is due in part to Thailand’s thriving ecosystem of manufacturers and a robust local supply chain. High labor productivities and skilled work forces in both the electronics and automotive industries have driven growth in automation and robotics further up the value chain. However, both industries remain dependent on raw materials from China due to gaps in Thailand’s ability to domestically produce these materials for high-volume manufacturing. As a result, some manufacturers in Thailand have experienced challenges with quality and process control, reduced agility, and a need to rebuild product knowledge and data pipelines.

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Effective Supply Chain Diversification Across ASEAN Nations

Several considerations can help manufacturers optimize their supply chain diversification efforts throughout ASEAN regions. First, manufacturers should perform a comprehensive supply chain investigation and qualification before committing to any line transfers. The local industry must be sufficiently developed, at the very least, for reasons of upstream supplier support. We suggest that industries with acceptable upstream suppliers and relatively sufficient support in the ASEAN region qualify suppliers at least 3–6 months before a line transfer. Comprehensive audits of upstream suppliers and OEM factories can also help manufacturers evaluate the degree to which the new location has knowledge of the product and supplier ecosystem.

Manufacturers can also benefit from an in-depth understanding of the differences in management culture across regions. We suggest training local staff as residential supervisors to help parent organizations create a collaborative atmosphere in factory locations where language and culture differ. Local experts with global experience can act as an invaluable bridge for increasing understanding and cooperation between parent companies and remote factories without the need for incremental employee investment.

Exponent's Expertise

Exponent's multi-disciplinary team of Ph.D.-level experts can help clients quantify opportunities and mitigate risks associated with supply chain diversification in ASEAN regions and throughout the world. Our local teams have helped companies across the United States and Europe solve regulatory, manufacturing, and safety-related issues throughout China, the ASEAN regions, and beyond.



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