

A close-up photograph of numerous metal fasteners, specifically hex nuts, arranged in a grid-like pattern. The fasteners are made of a dark, possibly stainless steel or black oxide-coated metal. The lighting highlights the hexagonal shape and the threaded interior of the nuts.

## Building a Better Fastener Supply Chain

### INTRODUCTION

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*Supply chains come in all shapes and sizes. There is no one-size-fits-all solution. Supply chains can be as simple or as complex as needed to produce a product or support a business. They can be based on handshake agreements or highly developed contracts; created around common sense or optimized with artificial intelligence. Multiple supply chains normally exist within a company.*

*The fundamental purpose of a supply chain is to ensure the reliable supply and timely delivery of the materials that a business needs to perform a function (such as build a product or install a device).*

*At a minimum, supply chains must be efficient. But efficiency is just one aspect teams should consider when evaluating supply options and priorities.*

*At a higher level, a supply chain may create operational efficiencies (lower administrative, storage, distribution and inventory costs, for example), or improvements to processes (faster assembly, easier installation, higher throughput, etc.). In these ways, supply chains can help companies create competitive performance advantages.*

*At the highest level, a supply chain is designed to support, protect, and enhance the long-term strategic interests of a company. Careful planning and supplier selection can help management eliminate or mitigate threats that could result from economic, political, social, or weather events.*

*This paper will discuss goals in building a fastener supply chain, identify potential risks, and offer actionable solutions to create a sustainable supply chain that delivers reliable performance as well as continuous improvement.*

## WHAT “BETTER” MEANS

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Defining what is “better” in any supply chain operation requires consideration of various factors and is dependent on the nature of the business.

Optimized quality, reliability, service, and cost are basic supply chain fundamentals. For higher levels of value, supply chain managers may incorporate value-added vendor services such as warehousing, vendor managed inventory, kitting, just-in-time delivery, custom shipping, and labeling. Information management systems (ERP systems, reporting capabilities, billing and payment systems, etc.), and third-party services (logistics providers, financial services, etc.) also play key factors. At the highest strategic levels, comprehensive supply chain analysis will involve vendor project experience, competitive market considerations, vendor environmental practices, and social responsibility performance as key decision factors.

*Defining what is better in each unique situation – given the importance of these factors – is a necessary starting point in building a better supply chain.*

### Attributes of Better Supply Chains



From simple to complex, all supply chains must provide the framework for achieving the reliable, efficient, and uninterrupted supply of products and services. These “musts” are necessary to support the operational and strategic needs of the business. In this section, we will briefly discuss important attributes that help define what “better” supply chains look like. Not all attributes will apply to every situation.

We expect supply chains to be efficient, but efficiency is not enough to be “better.” As a point of context, supply chain decisions that are based on efficiency, at the expense of other factors, can prove to be counterproductive.

Consider the case of “High-Speed, Low-Cost Supply Chains” that are unable to respond to unexpected changes in demand or supply, as discussed by Hau L. Lee, the Thoma Professor of Operations, Information & Technology at Stanford Graduate School of Business. “Supply chain efficiency is necessary, but it isn’t enough to ensure that firms will do better than their rivals,” according to Lee. “Only those companies that build agile, adaptable, and aligned supply chains get ahead of the competition.”<sup>1</sup>

In the quest for a better supply chain, it is important to look beyond mere efficiency and reliability (the basic characteristics of any supply chain), to discuss additional characteristics required for agile, sustainable and adaptable supply chains.

1 Harvard Business Review, The Triple-A Supply Chain, Hau L. Lee, October 2004 <https://hbr.org/2004/10/the-triple-a-supply-chain>

## Agility

It's no secret that supply and demand continually fluctuate. Agile supply chains are able to quickly respond to unexpected changes in supply and demand, efficiently and cost-effectively.

Agile supply chains help companies achieve competitive advantages in the market and – in the case of disruptions caused by economic, political, or environmental events – can be essential to long-term business risk mitigation.



The most important building block to a partnership is collaboration – suppliers and customers working together to develop smarter processes, continuously sharing data and responsibility, with incentives to react dynamically to changes in supply and demand.



**Building Supply Chain Agility.** Vendor Managed Inventory is one example of creating agility in the supply chain. By sharing operational information, and continuously monitoring inventory levels, the supply chain can be made to better accommodate rapid supply and demand changes.

## Adaptability

The work to build a better supply chain is never done. Organizations must continually adapt their supply chains to a changing world.

In addition to dealing with changes in supply and demand, a better supply chain is adaptable to structural market changes and/or evolutionary developments created by outside events. Technological advances, economic cycles, political influences, social events (e.g., labor disruptions), and natural disasters can create the need for rapid change. Planning for these types of contingencies is a critical part of supply chain adaptability.

In addition to being prepared for the unexpected, adaptable supply chains can help companies continuously stay competitive. Adaptability helps companies anticipate, improve, and react swiftly to market changes, economic shifts, changes in strategy, and competitive market factors.



**Building Supply Chain Adaptability.** Creating long-term relationships with highly integrated and incentivized partners can build adaptability. Suppliers who know the ins-and-outs of your processes become partners in continuous improvement.



## Sustainability

We're not referring to environmental sustainability. Here, we refer to the ability of supply chains to be sustainable.

To a high degree, supply chain sustainability occurs when there is alignment between the individual interests of the parties in the supply chain. Alignment creates incentives that help optimize the chain's performance. Risks, costs, and rewards can be shared to create economic incentives. Inventory replenishment decisions can be managed from the supply side, encouraging improvements in production, distribution, storage, and handling practices. Alignment assumes that partners share in winning. Supply chain alignment benefits everyone.



**Building Supply Chain Sustainability.** Creating long-standing relationships between reliable and responsive business partners is the goal of supply chain sustainability. Creating a structure for long-term supply chain alignment is a win-win situation.

## Visibility

Supply chain visibility requires different parties in the supply chain to see what is going on in the supply chain at all times. The ability to track components and products at any point in the supply chain is essential. Through the use of RFID, ERP, AI and other supply chain software technologies, visibility is increased. Workflow and logistics planning efforts can be continuously optimized for improved performance. With visibility, near real-time data is available to all supply chain participants, up to or including the final customer.



**Building Supply Chain Visibility.** By working with vendors who can support the seamless integration of information management resources, companies can ensure better visibility into their supply chains.



## Collaboration

In the continual quest to build a better supply chain, nothing is more important than the “working collaboration” between companies and suppliers. Working with suppliers who have experience in your industry, and a working knowledge of your markets, can increase the quality of potential collaboration. Choose partners with the expertise and resources to engage at a high level in the process of continuous improvement.

The ability of any supply chain partner to perform on a consistent, reliable basis, with continuous improvement, will ultimately define important aspects of the supply chain's success.



**Building Supply Chain Collaboration.** Know your suppliers and their ability to engage proactively to build a supply chain that is efficient, agile, adaptable, sustainable, visible, and collaborative.

## SUPPLIER SELECTION

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### Geographic Footprint

If geographic coverage is important – for example, to support multiple manufacturing or fabrication sites, assembly points, or distribution areas in the supply chain – take a measure of the fastener supplier's geographic operating scope. Analyze the location of manufacturing, warehousing, distribution centers, and logistics networks to ensure the supplier's ability to efficiently deliver products in a timely manner, according to your requirements.



## Industry Expertise

Does the fastener supplier have expertise in your industry, and experience with projects of comparable scale?

## Manufacturing

In the event that fastener components are to be manufactured by the supplier, learn about the facilities, processes, resources, materials, and technologies used by the fastener manufacturer, in order to eliminate or mitigate potential manufacturing vulnerabilities. Manufacturer certifications, quality assurance programs, testing capabilities, raw material sourcing policies, inventory maintenance levels, lead times, health, safety, and environmental programs, and logistics capabilities are key areas to evaluate.



## Sourcing

Just as manufacturing processes must be evaluated, so too must sourcing practices be analyzed. Does the sourcing partner have redundancy within their supply network, in order to eliminate the possibility of shortages or stock-outs? Are adequate testing capabilities in place to ensure the quality of all sourced components? Does the supplier follow ethical sourcing practices? Is their scale of operations sufficient to ensure competitive market pricing, particularly when new parts or components are required?

## Technology

Does the vendor have the technology infrastructure required to collaborate in a modern supply chain? What is their ability to collect and report data? Receiving and processing data received from other supply chain partners, is a key aspect in building a truly integrated supply chain. Through use of ERP software and related management information systems, vendors can add immediate and ongoing value to supply chain operations.

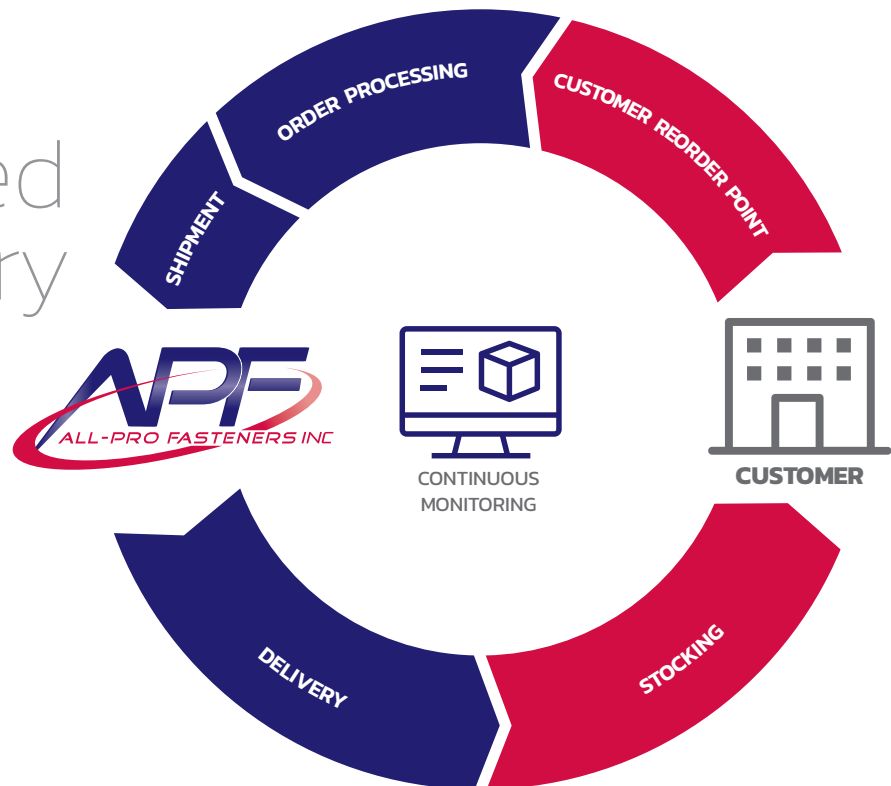
## Testing

In the fastener world, testing is critical to verify conformance to specifications, and ultimately, to ensure expected quality levels in the final product. Fastener suppliers should demonstrate their ability to provide ongoing testing capabilities through a certified in-house laboratory or licensed 3rd-party testing lab. The ability to certify test results, and independently trace product batches in the event of a problem, are key to an effective fastener testing and quality assurance program.

## Vendor Services

In addition to certified manufacturing programs, competitive sourcing, integrated technology infrastructure and product quality testing, fastener suppliers may offer value-added services that save time, reduce costs, and simplify assembly or installation processes. These services can include Vendor Managed Inventory (VMI), parts kitting, stock and release, just-in-time delivery, drop shipping, and custom shipping services to increase overall supply chain efficiency.

## Vendor Managed Inventory Process



## SUPPLY CHAIN METRICS

Companies may use a number of metrics to evaluate supply chain performance. Deciding which supply chain metrics to prioritize depends on various factors, and may change based on market characteristics, competitive factors, or changes in strategic direction. Some metrics, while yielding actionable results, may fail to support a macro view of supply chain performance. Furthermore, making decisions based on metrics in one area of the supply chain can have unexpected consequences for other links in the chain.<sup>2</sup> The use of metrics should be guided by a realistic view of the supply chain – and be utilized as part of the process of building a better supply chain based on efficiency, agility, adaptability, alignment, visibility, and collaborative improvement.

<sup>2</sup> Throughput, Inc., How Supply Chain Efficiency and Sustainability can be Improved, Tina Jacob, December 2019  
[https://throughput.world/blog/topic/supply-chain-efficiency/#How\\_to\\_measure\\_Supply\\_Chain\\_Efficiency](https://throughput.world/blog/topic/supply-chain-efficiency/#How_to_measure_Supply_Chain_Efficiency)

## Time

Metrics relating to time are easy to calculate, and generally yield straightforward insights into operational effectiveness. On-time deliveries, order processing times, and service response times are examples of time-related metrics.



## Cost

Cost metrics help identify areas of the supply chain that are performing efficiently on a cost basis, as well as areas where improvement can be made. Analyzing inventory carrying costs is one example of how cost metrics can lead to changes that reduce capital expenses, improve cash flow, and/or increase profitability.



## Quality

Quality metrics are easily measured and can help quickly identify critical problem areas to be addressed. The use of quality metrics helps ensure that product expectations are being met. These metrics can also point to quality improvement initiatives that can lead to better processes, competitive advantages, and higher levels of customer satisfaction.



## Industry Knowledge

Having suppliers who are knowledgeable and continually looking for optimal solutions – rather than just supplying parts – leads to cost savings and performance savings that can be measured. Supplier teams should be available to work with buyers and engineers to find solutions that can streamline and optimize the procurement process.



## ONGOING OPTIMIZATION

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The process of building better supply chains is never-ending. Ongoing efforts to optimize processes, materials, product designs, logistics, and assembly methodologies are essential to maintaining competitiveness and leading the way to innovation.

Better supply chains are agile in responding to change. They adapt over time as structural changes occur within markets or as strategies evolve. Through alignment of interests, the supply chain is optimized when all partners in the supply chain strive for the best result.





A sustainable supply chain offers visibility into operations and fosters collaboration among parties. The supplier and customer teams can build better supply chains that have incentives for self-improvement.

Building a better fastener supply chain is about more than selecting vendors based on lowest cost. It is about selecting partners who offer the people, products, resources, programs, technology, capacity, geographic reach, and business infrastructure to ensure reliable supply chain performance, now and in the future.

## ABOUT ALL-PRO FASTENERS

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All-Pro Fasteners manufactures, sources, and distributes high-quality fastener products to meet almost any industrial application. The teams at All-Pro Fasteners go the extra mile with customized supply chain solutions including vendor inventory management, kitting, custom shipping, and other programs. We offer a full range of service and support to make your business more efficient and profitable.



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