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**Strategies to Power the American Supply Chain**

An approaching tooling shortage was highlighted at the [Plastics News](http://www.plasticsnews.com/article/20140312/NEWS/140319950/harbour-study-shows-large-tooling-shortage-ahead#.UyDG4DzLyY0.twitter) Executive Forum in Wesley Chapel, Florida recently. According to the [Harbour](http://www.prnewswire.com/news-releases/harbour-results-inc-study-finds-auto-industry-can-anticipate-future-capacity-constraint-230049381.html) study, released by Harbour Results Inc. last fall, there will be a vendor tooling capacity constraint within the automotive industry by 2018. In about 5 years, the capacity requirement will reach $15.2 billion. With our available current supply of only $9.25 billion, tier 1 or tier 2 suppliers will become a crucial part of the automotive industry and product development process.

Laurie Harbour, president and CEO of Harbour Results, Inc. has been quoted as saying; “Capacity will become a serious challenge for the automotive industry in the near future. If the North American tooling industry doesn’t respond to the challenge someone, such as European and Asian tooling suppliers, will.”

According to [survey results](http://www.autonews.com/article/20131019/OEM01/310219872/spot-shortages-of-parts-looming-for-2014) of 100 suppliers polled by IRN Inc., a Grand Rapids, MI consulting firm, and published in a recent article in Automotive News, 38% of North American suppliers of electronics parts will be impacted in 2014. 26% of 100 suppliers polled said they had “difficulty meeting production expectations” this year.

But automotive is not the only industry vulnerable to parts shortages and disruptions in the U.S. supply chain. According to an article in [The Wall Street Journal](http://online.wsj.com/news/articles/SB10001424052748703597804576194101663283550), supply chain disruptions from global natural disasters such as the earthquake that struck Japan in 2011, transportation and shipping can also greatly impact our American suppliers.

According to a report by the [U.S. Business and Industry Council](http://finance.yahoo.com/blogs/daily-ticker/not-just-autos-shortage-japanese-parts-puts-u-20110406-055420-571.html), machine tools, bearings and forgings used by suppliers that are integral to advanced manufacturing in the U.S. today, are also vulnerable to disruptions and shortages which could disrupt high-value production throughout the domestic manufacturing base.

Harbour sees the strategy of reducing capacity discrepancies to be threefold:

* Early collaboration
* Focus on cost as opposed to price
* Management of the value stream

I agree with the Harbour recommendations and believe these strategies should be applied across the entire U.S. Supply Chain. Powering our U.S. suppliers will be critical in enabling them to capture work created by all of the shifting economics, including the automotive industry tooling situation revealed by Harbour, new foreign investment and companies reshoring. I also believe that online sourcing technology is central to executing many of these strategies.

**Strategies for the Future of the American Supply Chain**

The U.S. supply chain has been damaged due to years of offshoring. New U.S. supply chains must be rebuilt and the strategies suggested by the Harbour study would not only better prepare our suppliers for the challenges such as the parts shortages in the automotive industry but additionally for unexpected disruptions, new foreign investment, reshoring and the American Manufacturing Renaissance.

**Collaboration**

Collaboration between OEMs and suppliers as suggested by Harbour will have a game-changing effect on the overall production process. Increased collaboration helps avoid late-stage engineering redesigns, ensures more efficient production methods, keeps costs down and can improve time-to-market.

Suppliers are essential partners in innovation, productivity and competitiveness. Companies are finding that when manufacturing and engineering are located near one another, they can improve design, eliminate waste, improve quality and increase productivity.

Collaboration between buyers and suppliers should be cultivated and relationships must be based on strong communication.

Here are some elements of effective buyer/supplier collaboration.

1. Set goals and establish clear expectations, processes and requirements in advance.
2. Emphasize shared benefits of cost savings, revenue growth, and risk reduction.
3. Build trust with in-person meetings promoting collaboration and confidence.
4. Carry out regular progress updates.
5. Be committed and accountable for results with an agreed upon procedure for measurement.

**Cost**

“Seeking lower prices, especially with low-cost countries, is not the answer. The advantage gap for countries like China has been shrinking and will continue to shrink,” says Harbour. That’s right, Chinese wages have been going up 15-18% a year and are now high enough for many products to be made more profitably here in America.

Manufacturers today are looking at more than just price. Companies must look at the total cost of manufacturing, such as quality, delivery, transportation, innovation and flexibility. However, as Harbour points out, the focus must shift from low-cost sourcing to managing costs.

**Lean Manufacturing**

Harbour suggests analyzing the entire process to identify key areas of improvement as well as practicing lean manufacturing methods. According to Harbour, a majority of the costs associated with the vendor tooling value stream are a result of process wastes and, when improved, can make a considerable difference on the overall cost of the industry.

**E-sourcing and The American Supply Chain**

A key element of revitalizing collaboration, managing costs and encouraging lean manufacturing practices across the American supply chain lies in streamlining supplier discovery and delivering efficient communication and coordination to the buyer-supplier relationship.

Sourcing technology is a fundamental component in facilitating the level of collaboration needed for the future American supply chain. The sourcing technology used in connecting buyers with U.S. suppliers should provide real time communication, collaboration and negotiation with one or many contract manufacturers.

Buyers must be matched with suppliers who have the right capabilities and machine assets for product development. A typical supply chain may rely on the skills and equipment capacity of hundreds of suppliers. Effective supplier discovery, selection and network maintenance is fundamental and an online e-sourcing platform with real-time negotiation with one or many contract manufacturers should be considered to provide the functionality needed to manage costs.

Companies need the capacity to instantly access qualified American supply chain partners and quickly locate U.S. supplier profiles to find the contract manufacturers with the capabilities to meet production requirements and time-to-market guidelines to keep costs under control.

The third component of lean and effective manufacturing processes can be approached by beginning with suppliers that have the correct capability and capacity for the job. A sourcing system with a precise matching network is essential for real-time exact matching of supply and demand.

**In Conclusion**

Accessing and connecting buyers with qualified U.S. suppliers who have the capability and capacity to meet production and time-to-market guidelines is foremost for competing globally. With lean manufacturing practices, advanced manufacturing technology and a hi-tech sourcing system, U.S. manufacturers can be competitive on total cost, quality and delivery to power-up a strong American supply chain.

**ABOUT THE AUTHOR:** Frank Russo is CEO and co-founder of [Fabricating.com](http://www.fabricating.com/) a cloud-based sourcing marketplace exclusively for American-made custom parts. Before co-founding Fabricating Partners, Inc., CEO Frank Russo was instrumental in the development of web-based innovations to connect Buyers with suppliers and create vibrant market spaces, while serving on the management team at Thomas Publishing Company, McGraw-Hill Construction Information, and MFG.com. A thought leader in the manufacturing industry, Russo is regarded as an insider due to his extensive knowledge of metal manufacturing technologies, procurement and supply chain processes, and online marketing techniques. [Fabricating.com](http://www.fabricating.com) ’s online marketplace has been developed exclusively for the U.S. manufacturing industry and sourcing of U.S. custom parts.