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Technology Effective Option to Overseas Sourcing

More manufacturers are bucking the rising tide of globalization and bringing manufacturing back to the U.S.

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For the automotive industry, an increasingly interconnected world and the explosive growth of a new global marketplace has sparked big changes—and the impact of those changes varies quite dramatically depending on where you stand.

Globalization comes with an inherent mix of benefits and liabilities, challenges and opportunities, welcome new efficiencies and frustrating new complexities.

For such a supply-chain-driven field like the automotive industry, where companies constantly are looking for ways to reduce labor costs while still producing high-quality parts, the globalization of manufacturing would seem to be an extremely positive development.

And, while that certainly has been the case in some respects, the reality is both more complex and much more interesting.

Somewhat counterintuitively, in more than a few instances the search for cheap

labor and quality parts has not led overseas, but has come full circle right back to the U.S. For some American manufacturers, particularly those that specialize in precision parts and high-tech components, globalization actually has heightened demand for their products and services.

For the automotive companies that rely on their technical and logistical skills, the result is a production and delivery model that combines the best of global efficiencies and competitive pricing with trusted high-quality parts and materials.

For automotive industry decision-makers, understanding how and why the search for cheap labor and quality parts has benefited some manufacturers—and appreciating what circumstances create those dynamics—is important to better understand the intricacies of a complex industry.

This knowledge also will help decision-makers facilitate the kind of strategic and successful partnerships



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that can strengthen the supply chain and yield higher-quality parts and products, all while having a positive impact on the bottom line.

New Horizons

Sparked in part by the passage of NAFTA in the mid-1990s, the flame of globalization turned into an inferno, a conflagration that consumed old manufacturing, production and delivery models virtually overnight.

Tier 1 suppliers' push to find cheaper labor and logistics prompted a mad rush to Mexico, then to China and, more recently, to lower-cost regions of Europe and parts of Africa. Subsequently, they began to source their purchased components to local markets (in some cases tooling up the same parts with multiple suppliers in multiple markets).

In recent years, however, we have seen the emergence of a new trend: More manufacturers are bucking the rising tide

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of globalization and bringing manufacturing back to the U.S.

There are several factors driving this evolving dynamic. One is that some specialized manufacturers have been able to leverage automation and technology that allows them to compete globally with lower-cost countries.

That level of efficiency and precision makes it possible for automotive manufacturers to rely on a single-source supplier, one that can provide select high-tech and high-quality parts globally, with world-class quality metrics at a competitive price.

The Automation Differentiator

As more manufacturers are discovering, leveraging automation and technology in conjunction with a lean labor force make it possible to compete on a global scale.

The automation piece is extraordinarily important, however. It's a defining strategic advantage that can reduce labor costs, introduce new efficiencies and quality control standards, and provide you with a way to solve logistics and production challenges without simply throwing more people at the problem.

The right technology infrastructure does more than just level the playing field. It can tilt it in your favor. Most overseas manufacturing operations are not equipped to provide the same quality delivery and technology metrics.

Tools such as pneumatics and optical detection can help ensure mold integrity, for example, and CT scanning makes it possible to perform part validation, wall

thickness and void/inclusion analyses, as well as make part-to-CAD and part-to-part comparisons.

The right tools and robotics allow engineers to operate within the tightest tolerances. This is particularly important when dealing with safety-critical parts.

Specialized Expertise

As the value of relying on high-tech manufacturers in a global economy becomes more evident, the benefits of a global purchasing structure become more apparent. Sourcing high-tech parts from one supplier and letting them ship globally instead of sourcing the same parts in three different locations around the world results not only in higher quality but also in savings from the economies of scale that come with the higher volume.

Those savings may alleviate or even entirely offset the cost of the logistics, further reducing the "cost of quality."

It is important to emphasize this trend is almost exclusive to smaller, high-tech and precision parts. We are talking about bits and bytes, not bumpers. The challenge is that the list of companies equipped to manufacture high-tech and consistently high-quality parts and products actually is fairly short, and identifying those leading providers can be tricky.

When evaluating prospective partners, one of the key indicators that distinguishes accomplished and experienced tech manufacturing providers is the quality of the technology infrastructure. Successful high-tech manufacturing environments should feel more like a clean, antiseptic workspace than a traditional manufac-

turing floor, more in common with an operating theater than an industrial space.

This type of approach to manufacturing succeeds best in an environment where the entire corporate culture has embraced this concept, not just a single work cell. Be leery of add-on technology solutions, however. Slapping a tech Band-Aid on an existing manufacturing operation does not make you a "tech company."

Generally speaking, it is smart to prioritize companies that literally and figuratively have been built on a tech foundation: creatively, operationally and philosophically all designed around technology.

Logistics and shipping expertise also should be part of the equation. Look closely at quality and delivery scorecards. The best suppliers should be able to back up their promises with metrics and measurables that clearly illustrate their proven experiences and demonstrated expertise.

Identifying U.S. high-tech manufacturing partners is going to become only more important going forward, as these specialized providers seem almost certain to expand as an increasingly prominent part of an evolving global automotive manufacturing marketplace.

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