

Parts Distribution Influenced by NAFTA

Mexico is playing a bigger role in automotive manufacturing and parts distribution to the U.S. market.

BY DAN MCCUE

Mexico's ascendance in automotive production is having a profound effect on parts inventory planning within the industry, and it is predicted the accompanying shifts in sourcing and supply chain strategies will soon extend to other high-value manufacturing sectors.

Now poised to overtake both Japan and Canada and become the top source of imported cars for the U.S. market, the Mexican boom — a direct result of the North American Free Trade Agreement — is feeding on its own momentum, inspiring a multibillion-dollar wave of new factory construction.

This construction boom is, in turn, creating pressure on suppliers not only to co-locate, but also to bear more of the costs and responsibilities when it comes to inventory.

"It's a strategic move," explains Mike Pilver, vice president of automotive sales and opera-

tions at APL Logistics. "The largest OEMs are encouraging, if not requiring, their key supplier base — those that provide the highest volume of parts — to move their facilities closer to this new generation of assembly plants of Mexico, and the objective is to trim the volume of parts that are moving at any given time over the road or on the rails."

Pilver continues, "Next to near-shoring into Mexico, I think this is the biggest trend, or biggest key change, we've seen in the NAFTA region."

And that trend is only bound to continue. In late February, Honda opened an \$800 million plant in the central Mexican state of Guanajuato, and a little over a week later, Mazda cut the ribbon at a new \$2 billion plant in the nearby state of Aguascalientes.

In addition, Audi is now building a luxury car plant in the Mexican state of Puebla, with production slated to begin there in early 2016.

The industry consultant IHS Automotive predicted exports from Mexico should reach 1.9 million even before Audi begins production.

Two Supply Chains

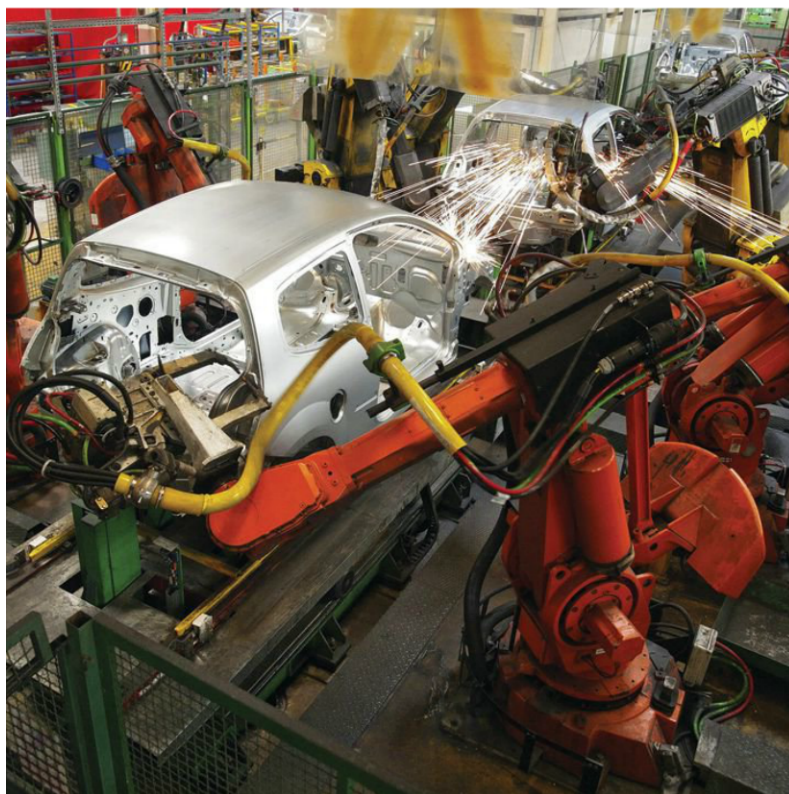
It is worth stepping back a moment and pointing out that industry as a whole actually has two distinctly different supply chains — the aftermarket or service parts supply chain serving automotive dealers, and the manufacturers' supply chain.

In the case of the former, parts flow from the parts manufacturers through various centralized distribution centers, then regional distribution centers and on to the dealers. In a lean logistics environment, the OEM supply chain is a bit more streamlined, more sophisticated and divided into tiers, with the tier one suppliers being those delivering the most critical parts to factory floor.

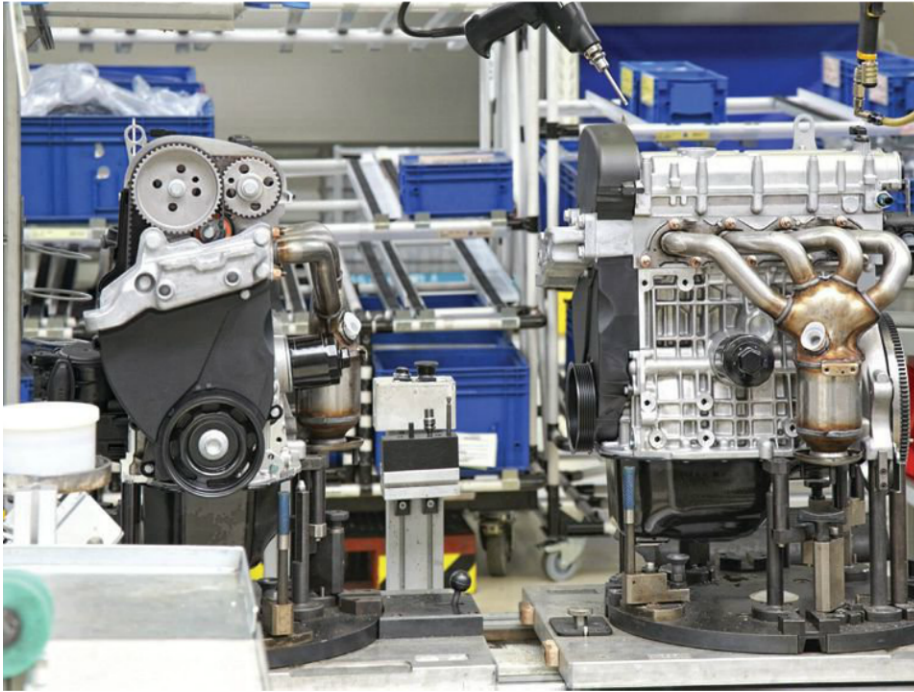
For the purpose of this discussion, we'll be focusing on that latter.

Prior to NAFTA, the tailwinds the automotive industry and its 3PL service providers are currently seeing in Mexico blew many expense-conscious OEMs to the American South, where labor prices were low and support for unionization nearly non-existent.

Whether the company was BMW, which set up



Companies seek innovative ways to shorten the supply chain between a tier one supplier and OEM.



shop in the Greenville-Spartanburg area of South Carolina, or Toyota, which built a 2.2 million-square-foot campus in San Antonio, Texas, the basic operating philosophy was to keep critical suppliers close. That trend continued as the auto OEMs turned to Mexico in their ongoing search for better margins.

“What this does is shorten the supply chain between the tier one supplier and OEM — which is a great benefit to the OEM — but at the same time, it increases the length of the supply chain between the tier ones and the tier two suppliers, who are the entities that supply the raw materials,” says Lee Jones, vice president of customer development and marketing of Vascor Logistics, a 3PL formed in 1987 to serve the needs of Toyota’s then-new assembly plant in Georgetown, Ky.

“In theory, the idea is that by working in close proximity, the tier one supplier can make a part when needed and hand it to the OEM just as it is needed to be installed on a vehicle,” Jones continues. “Now, that’s not realistically achievable, but that’s the goal, and it is the epitome of the production system for companies like Toyota.”

“The net result of this approach is that the inventory levels maintained by the OEMs are going down, while the inventories of tier one manufacturers are going up — so the OEMs are kind of masking the

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— Mike Silver

cost of inventory through that shift in supply chain,” he says.

While “masking” in this context might seem like a harsh word, in fact, the phrase is like a big neon sign to thoughtful 3PLs, who realize the tier ones are now a market sorely in need of supply chain solutions.

“It really is an opportunity for us because the OEMs have been managing their inventories very, very well for a long time, and as a result, their operations are mature and very sophisticated,” Jones says. “It’s a much different situation with the tier ones, who are

not only taking on higher inventory levels but are doing so with less sophisticated systems and processes in place to control that inventory.”

Raising the Performance Level

Within this context, Vascor Logistics is seeking “to bring the same level of process, sophistication, IT systems and controls that we’ve helped the OEMs with over the past 25 years,” Jones says.

Toward that end the company has built a predictive analytics tool into its business intelligence platform to help clients make more informed decisions about inventory based on what’s going to happen tomorrow or, conceivably, next week or the week after that.

“In an environment where the OEMs have gotten very good at ratcheting down inventory as tight as possible, the thing the tier ones are always trying to manage is buffer stock,” Jones says. “In other words, the parts they need on hand to ensure that they can serve the OEM — because the last thing a tier one wants is to come up short and not be able to service its client.

“The conventional wisdom is that the longer the supply chain, the more buffer stock you need to have on hand,” he says. “As a result, in many cases we find tier ones keeping three days, five days, even 10 days of stock, depending on how stable their production system is — and they don’t really need to do that.

“The key in our view is visibility into order patterns and production systems, and if you build that into a business intelligence platform, the client will have a higher degree of confidence in getting by with less buffer stock,” he says.

Of course, alleviating inventory concerns is only one goal of the tier one and their service providers. Another — the perennial concern, if you will — is saving money, particularly given the tremendous price pressure exerted by the OEMs.

Lately, Vascor Logistics finds that tier one suppliers are becoming much more open to network integration and even freight integration if it shows real benefits in later assessments of the bottom line.

“Network integration is easy ... if you have a group of tier ones that are your customers and you use the same asset base to service them — trucks, basically — you have a bit of leeway and can create a situation in which you’re servicing multiple tier ones,” Jones says.



“That’s quite a bit different from the way OEMs operate their supply chain networks, which are closed loop networks specific to the customer,” he continues. “In the tier one environment, you’re dealing with much smaller entities, and they’ll embrace network integration if that’s required.”

“Now, that’s without integrating the freight,” he says. “The next level down from what I’m talking about is actually picking up freight for multiple suppliers on the same routes and then either cross-docking that for delivery to the tier ones or taking it directly to the tier ones. That’s a little more complex of a network design, but the tier ones are open to it because that’s where some real supply chain savings can be achieved.”

A Role for Rail

On its face, this shift in parts supply management would seem to be a bad thing for those who operate on the rail side of the ledger. After all, if more suppliers are moving closer to the OEMs, the advantages of rail would seem irrelevant.

But this, in fact, isn’t the case, according to APL Logistics’ Mike Pilver.

“What we have always targeted as an area of growth for our business is the transitioning of cargo from road to rail, and, historically, we’ve always relied on the rule of thumb that any move over 750 miles is

“OEMs are masking the cost of inventory through that shift in supply chain.”

– Lee Jones

theoretically ripe for an intermodal transition, and that at 1,200 miles to 1,500 miles, an intermodal move is a slam dunk.

“Now, this has been evaluated and reevaluated many times over the years, and the sweet-spot has always stayed the same — until recently,” Pilver says.

What’s happened?

According to Pilver a worsening long-haul driver shortage is compressing the distance at which intermodal makes sense.

“The slam dunk is getting shorter and shorter,” he says. “That’s the reason we’re being given the opportunity to manage this kind of move by the rail.”

While those in the logistics industry have been talking about the impending driver shortage for years, the situation was really brought home by this past winter’s unrelentingly harsh weather in much of the U.S.

“That really showed how fragile the

situation is, even for people who thought they’d successfully coped with the changes in hours-of-service and the CSA regulations. We’ve seen that even the best dray companies and over-the-road carriers have a difficult time withstanding major jolts to the network.”

As a result, Pilver says APL Logistics has been aggressively targeting tier one and even tier two suppliers in the automotive sector and has found significant interest in this market.

“And this is a change from even one or two years ago,” he says.

“The reality for these companies is that as they respond to the demands and requirements of the OEMs, either the cost of the piece price is going to go up — to compensate for the capital expenditure of setting up a new facility — or they are going to have to change the cost structure of their logistics operation, taking on elements of transportation they hadn’t dealt with in the past,” Pilver says.

The automakers’ move south to Mexico is also putting pressure on distribution centers and warehouses and changing how they are being utilized, Pilver says.

“You always see some gradual change in cross-docking locations and border warehousing, the consolidation and deconsolidation points, but I think the pace of change has accelerated in recent years,” he explains. “Speaking from a north-south perspective on production parts, we’ve seen a lot of effort and expense go into setting up warehouses on the U.S./Mexico border to receive southbound materials headed into Mexico for consolidation, and to receive northbound material, to consolidate it and put it on trucks, taking LTL shipments, and then putting them into a truckload mode from there.”

“That’s happening more and more in communities like Laredo, El Paso and Brownsville, Texas, and from what I see, this is particularly so on the northbound side because more and more parts are being made in Mexico, and that northbound flow is actually eclipsing the southbound flow.”

Increase Frequency, Decrease Inventory

Jones says creating a solution against this backdrop requires a high level of expertise and a willingness on the part of the tier one to open its processes to this skilled staff and let them have a look inside.

“[Typically] when we talk to a new client,

we find they are very free in showing us what their current supply chain looks like, how the product is flowing, what the trucks look like, where their raw material suppliers are — and the reason this is important is it allows us to look at what they're doing against other networks that we already have in place and identify synergies," he says. "Then we determine where it makes sense to integrate those networks to achieve the desired savings.

"Sometimes a potential customer will give us their overall supply chain costs, so we can figure out how to improve on that cost target; other customers will just give us the network and a sense of the improvement they want to see — for instance a reduction in trucking miles," Jones continues.

"But in the end, you're always trying to balance inventory levels with transportation costs — that's where the value proposition is to be found," he says.

"So for instance, after doing that network comparison, we might go to a client and say, 'We see that you're currently getting a week's worth of inventory in one delivery per week, but with a bit of integration with our network, and moving to a schedule of deliveries two or three times a week, we can cut your inventory by a third.'

"Now, anyone will tell you that obviously the more deliveries you have per week, the less inventory you're going to need to keep on hand — but typically that means your transportation costs are going to rise significantly — but that's where the integration with our networks comes into play. We think it provides the tier one supplier with the best of both worlds — you get to increase the frequency of delivery, reduce your inventory levels and at least keep your transportation costs neutral if not decrease them."

Pilver says, "What we do is approach a particular tier one or OEM that has business moving over the road in a particular lane [pairing] environment, and we ask them for data on the volume of the loads going in and out, and the need time for those parts, and then we will engineer the differential from an intermodal perspective.

"We'll look at the actual originating dray, the number of actual full container loads, any milk-run mechanism they may have in place for combining two LTL loads into a particular intermodal load — and we'll create and engineer the ramp-to-ramp transit time from origin to delivery — and we'll give them a full transit time comparison with over the road."

Another element Pilver and his team factors into their consideration is round trip, or, as he calls it, the "rack-return ratio," a critical consideration for automotive manufacturers.

"Production parts move down to these new facilities in Mexico in racks that are compatible with the big box intermodal container structure, and these racks need to go

back to the supplier — it's a circuit, but it's not necessarily one-to-one — so we will look at the actual rack return ratio, and that will be part of the costing mechanism as well," he says. "It's not always easy, and sometimes it doesn't work, but you really have to sit down and see how all the components fit together and evaluate them versus each other and the actual, original mode of transportation." **WT**



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