

## GLOBAL SUPPLY CHAIN DISRUPTIONS SPUR NEED FOR A PLAN FOR EVERY PART

### Strategic, part-by-part planning can help auto suppliers develop more sustainable sourcing

Globalization and the never-ending drive toward reducing costs have resulted in highly efficient, but not always resilient, supply chains. The global automotive supply chains that have been built up over the past three decades are a prime example of this. Events of the last year, however, have forced companies to reexamine the importance of resiliency in their supply strategies. In the near term, though, there's not a lot that most manufacturers can do to rebalance supply with demand; manufacturing footprints and sources of supply can't be changed overnight, ships take time to unload, and microchips take time to manufacture. In short, it's not always possible to expedite changes to complex supply chains.

Though the continuing vaccination rollout signals promise ahead, supply chain disruptions from the pandemic continue, and there have also been ripple effects from other recent anomalous events such as February's deep freeze in Texas, the massive cargo ship that got stuck in the Suez Canal in March, or the fire at Renesas Electronics' chip factory in Japan that same month.

Auto suppliers will need to contend with the effects of these incidents even as the broader U.S. economic outlook has improved. The gross domestic product for the United States grew 6.4% in the first quarter alone and the Federal Reserve is forecasting that 2021 will see the fastest growth in GDP since 1984. Developing a so-called "plan for every part" is one way auto suppliers can ensure their supply chains are stable and resilient as the economic recovery accelerates.

#### A plan for every part

The concept of a plan for every part (also known as a PFEP) is not new. It has helped to inform the lean and continuous improvement efforts at many companies over the past 20 years. The concept essentially defines the demand for

each part, how each part is purchased, received, packaged, stored and delivered to its point of use. Too often, companies underutilize the full capability of their technology by not leveraging critical data in their enterprise resource planning and supply chain planning solutions. While the systems can be set up with unique parameters for each part, it's common to see the same parameter settings for a majority of parts.

If companies are going to improve their ability to plan more effectively, then they need to understand and appreciate the differences between each part, especially in terms of demand variability and value. Armed with this information, companies can develop segmentation strategies to better balance supply with demand including finished goods inventory levels, manufacturing volumes, reorder points, sourcing strategies and component inventory levels.

Take, for example, the recent supply crunch of microchips, which are vastly complex and process-intensive to produce. On average, the process to manufacture a single microchip takes approximately 12 weeks, although more complex chips can take up to 20 weeks. The product then needs to go through a process known as back-end assembly, test and package (ATP), which can add another six weeks to the production process. There are many nuances even between different types of this one part.

The ongoing shortage of these chips is wreaking havoc on multiple industries. Original equipment manufacturers have been forced to allocate scarce resources to premium products, and semiconductor manufacturers have been forced to prioritize certain customers over others. Companies are working to increase overall semiconductor capacity, but it will take some time for supply to come back in line with demand.

Meantime, companies should focus on improving their ability to make informed business decisions at the component level on as close to a real-time basis as possible. Having a plan—or better yet a strategy—for every part is a crucial aspect of the solution.

A finished goods inventory optimization analysis can inform a strategy for every finished good including the alignment of inventory, quality, manufacturing and purchasing to meet customer demand. While a segmented inventory strategy based on solid supply chain analytics may seem logical, it is not as prevalent as one might think. Now more than ever companies should be reevaluating their inventory segmentation strategies and working to optimize manufacturing and procurement to better align supply with demand.

#### Sustainable sourcing

Sourcing is another key lever in developing a strategy for every part, especially because many companies have looked across the world over the past several decades to find lower labor costs. Recent economic disruptions have further highlighted the fragility of supply chains, which were already under stress from trade wars. Combined with increasing global labor rates, as well as an increasing focus on environmental, social and governance (ESG) issues, these disruptions are forcing some companies to rethink their sourcing strategies.

To improve resiliency and customer service, many companies are starting to consider a regional approach that would put critical components of finished goods closer to a manufacturing site, customer or a given market. This approach would obviously increase cost, but after the past several months, many companies might think the incremental investment is well worth it. At the same time, stakeholders are more focused than ever on ESG issues, especially as it relates to environmental issues and the ethical sourcing of materials. Manufacturers and suppliers will need to weigh the potential cost impacts of responding to growing stakeholder interest around ESG versus the potential long-term reputational damage that could result from not responding to this shift.

ESG issues as rising priorities will be especially crucial for automakers and parts suppliers. As the electric vehicle (EV) market continues to expand at a rapid pace, the critical components (lithium, nickel and cobalt) required to develop batteries—as well as the water use, energy use and pollution associated with EV manufacturing—will require organizations to have processes in place to allow more visibility into their supply chains and the way companies source these mined elements.

Regardless of where their parts are coming from or the near-term supply and demand challenges they are facing, greater supply chain visibility should be a strategic imperative for manufacturers and suppliers. Having a plan for every part can ultimately improve visibility and real-time updates showing where parts are in the supply chain, helping companies to better redirect and allocate scarce resources as well as manage overall risk.



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