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manufacturing TODAY

BEST PRACTICES FOR INDUSTRY LEADERS

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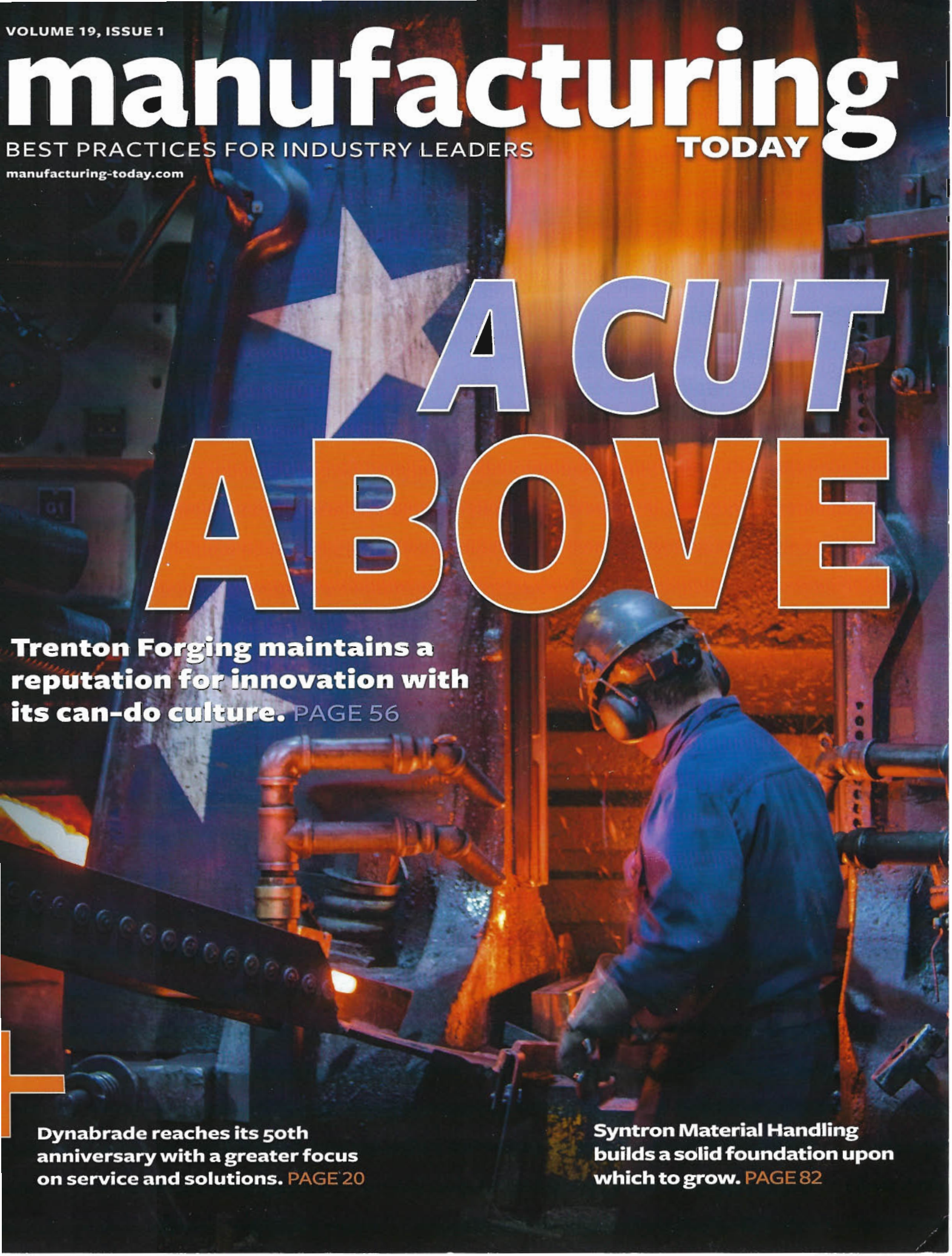
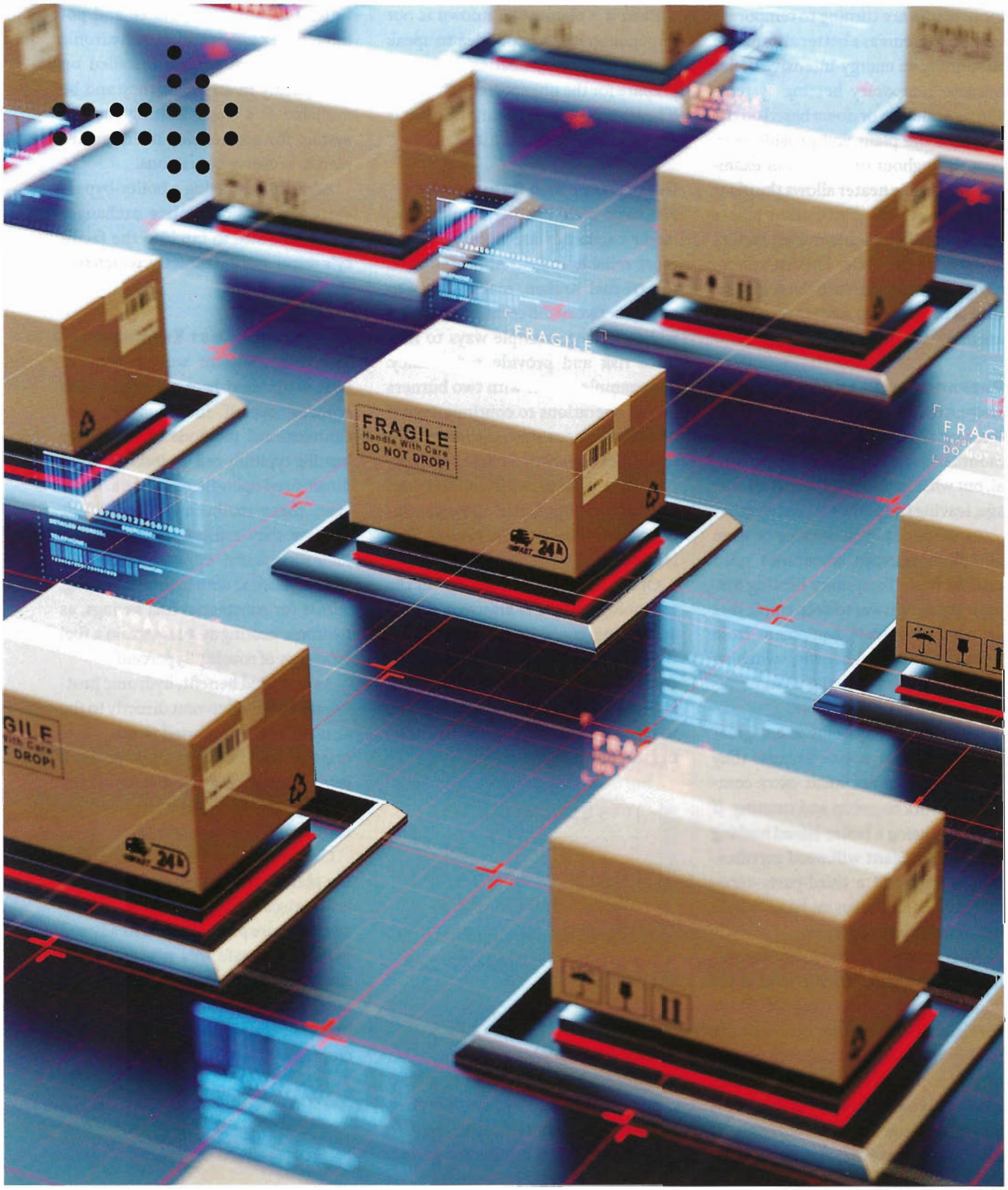


A CUT ABOVE

Trenton Forging maintains a reputation for innovation with its can-do culture. PAGE 56

Dynabrade reaches its 50th anniversary with a greater focus on service and solutions. PAGE 20

Syntron Material Handling builds a solid foundation upon which to grow. PAGE 82


FRAGILE
Handle With Care
DO NOT DROP!

Efficient Tools

THE CASE FOR GLOBAL SUPPLY CHAIN CROSS-PEGGING

As the global marketplace expands, the need for more efficient supply chain planning and management tools follows suit. Manufacturers have to be able to match demand to supply—no matter where that supply may be located or how widespread the organization may be. To accomplish that goal requires a commitment to the planning for, integration of and continual evaluation of the latest technology available. This is where the relatively new and untested concept of global cross-pegging comes in to play. It is the next step beyond some of the most current practices when it comes to planning, scheduling, material ordering and inventory control.

Maximize Efficiency

To maximize the efficiency of supply chain management, it is important to use all the technology tools that are available, including:

Enterprise Resource Planning (ERP): business process management software that enables organizations to use a system of integrated applications to manage the business (i.e. planning, development, sales, manufacturing, marketing) and to automate many back office functions. It does this via a single database, application and user interface. (webopedia.com)

Materials Requirement Planning (MRP): a sales forecast-based system used to schedule raw material deliveries and quantities
, using assumptions on the machine and labor units required to fulfill that sales forecast. (Investopedia.com) MRP is a subset of ERP.

Cross-pegging: linking demand to incoming supply (per Oracle.com). It creates a "peg chain" between a supply transaction and a demand transaction from either side of the equation. A peg prevents the incoming supply from being reserved or allocated to another demand transaction. Through data analytics or business intelligence (BI) that supplies historical, current and predictive views of business operations, global cross-pegging is the next step beyond the report generation now typically employed by those companies that do use the pegging methodology. It is using the information supplied by cross-pegging to actually execute critical decisions related to supply chain management. Cross-pegging should also be thought of as one of the techniques used in the overall planning process.

Supply Chain Mapping

In adopting these tools to their fullest extent, manufacturers need to chart a course that identifies the best available supply of materials with the agreed to due date or ship date. Then they have to reserve the materials required and identify those already in house by pegging them—in other words tying them to specific orders. Global supply chain cross-pegging helps eliminate the issuing of new purchase orders for materials needed for a customer build, thus reducing excess inventory levels and saving the company resources. It is the logical next step beyond local pegging, which treats each location for the same company as its own autonomous entity.

Consider the local MRP for an order as the starting point. Then retrieve all of the applicable data via global cross-pegging to find the optimal solution when it comes to sourcing raw materials or parts, to meet a customer ship date with a finished product. Go beyond those preconceived boundaries in the way supply chain management is typically conducted. Global cross-pegging allows factors like transit times for materials and shipment times to be factored in. For example, it may be that another purchase order will indeed be needed to source parts if the only in-house inventory is halfway around the world, can only come by ship and would push out the promised must-have due date. This goes beyond the typical approach now employed, where cross-pegging is most often used to produce reports but does not go further in the supply chain management and ordering process to make the best possible decisions on material ordering.

A Starting Point

Oracle ERP and SAP SE offer effective and well-regarded software programs that can be used for the "base planning" functions. Yet, in many cases, customized software programming for each user will be needed to establish a true global cross-pegging system. The Oracle and SAP SE off-the-shelf products do not come with that type of logic built in. Customized software reaches beyond the imaginary and artificial local boundaries to which

that large corporations often fall prey. While the upfront costs to customize a software package may require a substantial expense for programming, the return on investment (ROI) is soon evident and occurs within a relatively short period of time.

How it Works in Real Time

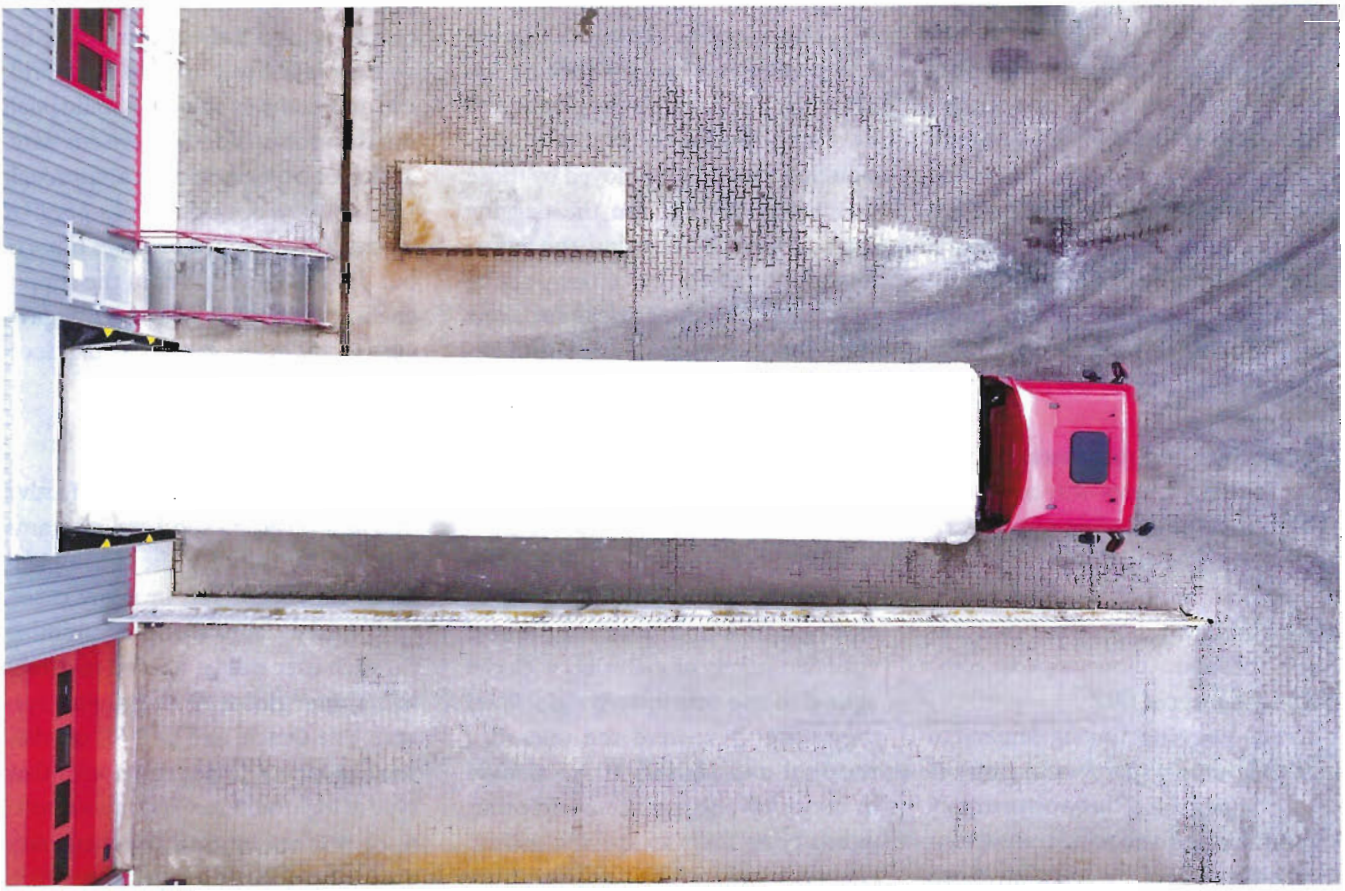
Before planners execute an order they should look outside of their local environment to the company's global platform, checking if the materials or parts needed are elsewhere in the system. They can also check transit time if that inventory is in a remote location, which may be a deciding factor as to whether or not another purchase order must be issued as an alternative.

Using cross-pegging, planners are spared from having to pore over a data analytics or a BI report manually, looking for clues as to where available inventory might be found. Simply put it is the jump from local pegging to global pegging in securing the materials required for a customer order, with functions in this digitally connected world performed automatically, based on the parameters or "rules" (ship date, maximum part costs, etc.) preset upfront.

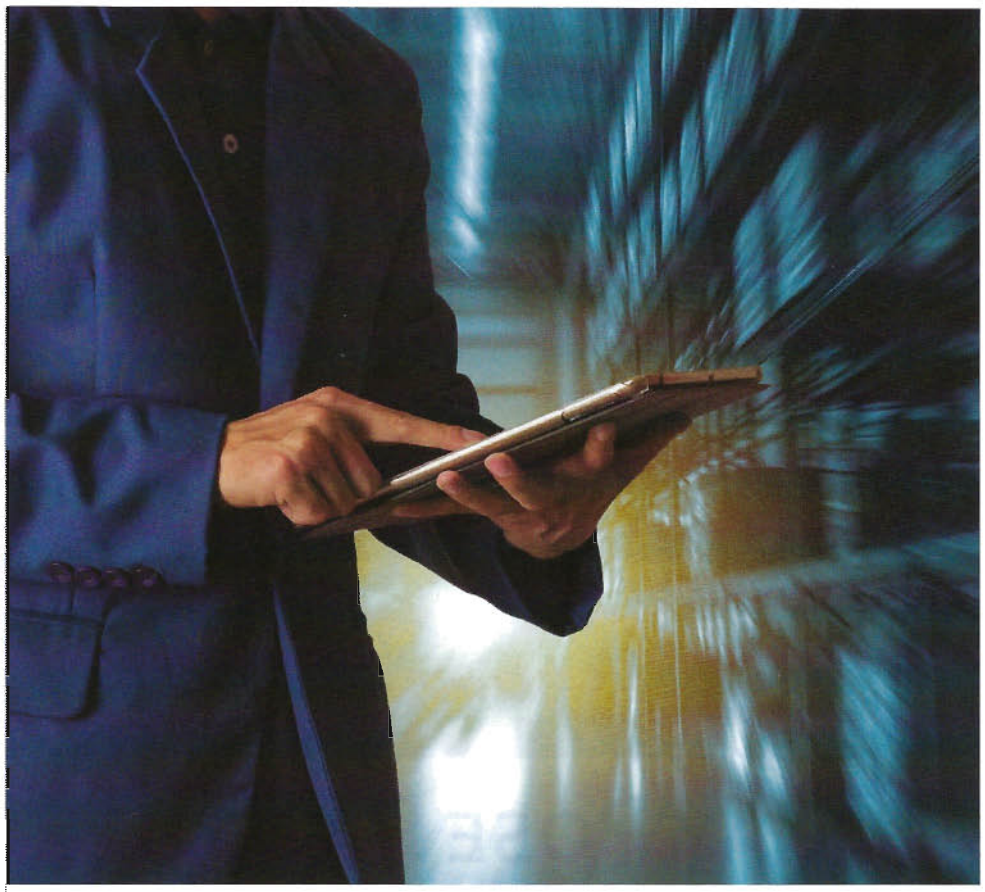
The Case for Cross-Pegging

Cross-pegging is the best way of utilizing existing inventories. It consumes excess inventory and prevents the piling up of excess stock. In competitive business environments where profit margins are especially thin, keeping unused inventory off the shelf is made easier with global supply chain cross-pegging. This methodology checks for excess inventory anywhere in the world (and automatically) when all the relative departments are tied together via a custom software package built on a reliable base program. Key Performance Indicators (KPI) that can be programmed include material costs if sourced locally versus the base costs to make or buy material or a part is already inventoried somewhere else within the organization. That is where shipping and transit costs may become a factor. The customized software could factor in shipping costs, customs fees, tariffs and other variables.

Global cross-pegging means taking the next step beyond running large, cumbersome, time consuming reports on a daily basis, then having to sit down and analyze that data manually. Cross-pegging allows for more visibility within the company



on specific orders, which can also enhance corporate communication. It combines multiple resources into one connected, cohesive software system – in other words, one tool to do everything. Current ERP software packages that use a system of integrated applications to manage the business simply do not take the last step to true global cross-pegging. Asking an Oracle or an SAP SE to make the necessary changes to their planning software programs may be years away from happening and will only occur if they see a sizable market for it. That typically means software customization is the only option at this point.



Global Sourcing, Global Planning

Global supply chain cross-pegging systems provide important benefits. They streamline operations and result in lower maintenance costs. These tools save larger companies millions of dollars a year by consuming excess inventory, reducing the man hours spent producing and analyzing reports, and fostering ease of operation that can reduce the overall cost of doing business (overhead). For companies that are spending millions of dollars on data collection and business intelligence already, key players involved in the decision making chain can find the information they need in one place. No longer are they forced to search in multiple locations to find the information required.

Second, global sourcing and planning streamlines inventory management. When excess inventory gnaws away at the bottom line, the automatic decision making that comes with global cross-pegging is a viable option. It serves as the company's backbone and foundation, not only for increased profitability but as a leg up on the competition. In this scenario, ordinary planners become true global planners when they employ global sourcing and supply chain cross-pegging, identifying the parts or materials they need, assigning it to work orders and tying it all to due dates.

Not Yet There

Even the largest multinational companies that would benefit the most from global supply chain cross-pegging have not made the jump. Taking it from the reporting level to the "execution level" is that next step. Cross-pegging works best for large manufacturing companies and major distribution systems, where extensive parts ordering and operations scattered across the country or across several continents are the norm. For smaller firms, the upfront cost to develop a custom software package on top of the base program may not produce a suitable return on investment in a short enough time period versus the overall volume of business.

Yet, cross-pegging deserves thorough consideration and evaluation. It's an out-of-the-box solution because it is one tool that can perform multiple functions based on rules set in place during the upfront planning process. At its core, it is simply a better way to reduce excess inventory, adhere to promised due dates, improve interdepartmental coordination/communication and enhance the bottom line. **mt**

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