



The Power of Inventory Control: How Integrated, Serialized Inventory Tracking Delivers a Competitive Advantage

Plex Online

At a Glance

- Legacy ERP solutions often do not reflect the physical reality of the material handling process.
- These legacy systems force the manufacturing enterprise to employ resource-intensive data entry that generates inaccurate inventory records.
- Advanced ERP systems deliver automated serialized inventory tracking features which reflect the physical movement of goods in real time.
- These systems track current inventory location, and remove manual recordkeeping and data entry errors that often result in “negative balances.”
- Manufacturers use these features to cut inventory costs, reduce data entry, and improve inventory control.



Cloud ERP for Manufacturers

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Today's manufacturing enterprise works hard to meet customer delivery schedules with quality parts while reducing costs. Those manufacturers able to achieve these demands do so with programs in place to reduce work-in-process inventories, shorten production times and minimize production costs.

Yet for many organizations, inefficient material handling and inventory control processes often impede the ability to meet these objectives.

Integrated Solutions

Manufacturers looking to overcome these difficulties turn to integrated manufacturing solutions that reflect the physical reality of the material handling process.

Integrated ERP and MES systems track and locate inventory transferred from one location to another. These advanced systems identify in real time current inventory levels as impacted by inventory transactions.

The Legacy Approach

This real-time approach differs from legacy ERP systems that offer a limited ability to track inventory movement within the enterprise.

As an example, legacy systems traditionally track the warehouse, location stored, part number and quantity in a single record, even when there are multiple quantities of one inventory type. These systems don't provide real-time visibility into inventory levels, location or volumes.

Manual Recordkeeping

Whenever quantities of inventory are moved from one location to another within a warehouse, an operator must print out multiple labels and manually review part numbers, quantities and location before moving that inventory to another location on the warehouse floor. The operator must then manually key in the new locations of the inventory via scanner.

It's a series of extra steps when a material handler transports inventory containers from one location to another, entering into a handheld barcode scanner the appropriate part numbers, quantity, and current location in the "to location" and "from location" fields.

Given the complexity of inventory movement within a manufacturing environment, it's often difficult for a material handler to recall the accurate "from" location and "to" location as they move containers in a just-in-time production environment.

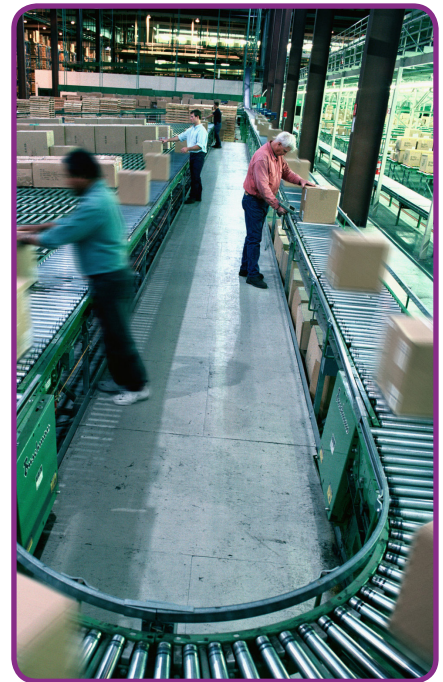
Accuracy Concerns

Beyond burdens of manual recordkeeping, this legacy approach adversely impacts inventory balances.

As an example, if a forklift operator is moving 300 pieces of finished goods from a container which contains a total of 500 pieces from location A to location B, the legacy inventory system does not track that movement in real time. A query to review the inventory balance file will not be accurate, since the 300 pieces have not yet been tracked to their new location.

Using the same example, the 500 pieces of the item stored in location A which were picked as 300 pieces for a shipping order could mistakenly be issued by the handler as material from location B. The end result would be 500 pieces still showing in location A and -300 showing in location B, a negative balance in location B which impacts the accuracy of inventory levels and shipping.

The inventory control system reflects “negative inventory” because an incorrect location is used in a transaction or an incorrect quantity is transferred in a location transfer transaction.



In simpler terms, the inventory control system does not live in the physical reality of the material handling process, and does not accurately reflect the true reality of the production process.

Impact on the Business

What's the overall business impact on a manufacturer using this legacy approach?

When manual handling and recordkeeping drives inventory into a negative, a manufacturer never has accurate visibility into the physical movement of inventory within the enterprise. Shipping and delivery are negatively impacted which compromises customer satisfaction.

Many companies are forced to assign staff members to spend hours or days each week tracking the source of the negative inventory balance in multiple locations, warehouses or manufacturing facilities. Once the team finds and flags errors, they must manually

adjust inventory control records to reflect accurate inventory balances. This results in an inefficient use of time and resources.

The methods also impact those on the warehouse floor. A material handler's main responsibility is to move goods from one location to another to optimize production and shipping. Manual recordkeeping slows the material handler's job down. Plus, as with any manual process, the methods increase the likelihood of errors when tracking the "to" and "from" locations of inventory movement.

A Better Way

Advanced ERP systems now improve inventory accuracy and reflect the physical movement of goods on the warehouse floor, resulting in a better business outcome.

A new generation of Cloud ERP for manufacturers features an automated inventory balance file which tracks and updates in real time a file of serial numbers associated with inventory parts, quantities and locations.

The file automatically tracks location fields, and removes manual recordkeeping and data entry errors that often result in "negative balances."

"Advanced ERP systems improve inventory accuracy and reflect the physical movement of goods."

The process is simplified to one scan of a serial number. The system automatically updates location, quantity, and all other critical data as items move through the facility.

The end result is a more efficient process, a reduction in the amount of negative balances, and improved real-time inventory accuracy.

Inventory Accuracy in Action

Automotive supplier Newman Technology, based in Mansfield, Ohio, serves as a best-practice case study after putting these inventory control methods into action.

The company manufactures parts for automobiles, motorcycles and all-terrain vehicles (ATVs). The supplier's primary products include exhaust parts, door molding and door sash components.

Newman's 700 employees build hundreds of thousands of components each day in four facilities. The company receives 1,500 containers of parts a day from a myriad of suppliers.

After production and assembly, Newman Technology ships out 5,000 containers of components to 15 customer locations around the world.

Past Challenges

For years, Newman Technology employees relied on manual recordkeeping to move inventory through the operation.

Material handlers manually keyed in data when moving inventory from one location to another. This was especially cumbersome given the company produces parts out of four buildings with multiple production line areas.

The company dedicated three full-time staff members to track down negative inventory balances resulting from the manual, inaccurate inventory control process.

Each day, staff printed out a negative inventory report, traveled around the shop floor, finding the locations of inaccurate, negative balance files, and manually counted and reconciled the inventory records to reflect the current location.

On top of this daily process, the company conducted bi-annual physical inventories to accurately gauge the physical location of inventories.

To overcome these limitations, Newman turned to Revolution Group, a manufacturing consultancy based in Columbus, Ohio. Revolution Group recommended Plex Online, a Software as a Service (SaaS) or Cloud ERP software solution that connects and manages the entire manufacturing process, from materials' orders to final product distribution.

Since implementing Plex Online, the system's serialized inventory features automatically track the location of inventory in each of the four facilities and 220 work centers, giving a real-time snapshot of the current location of over 330,000 components received daily, and 100,000 parts shipped out daily.

Explains Pat Welsh, Senior Consultant with Revolution Group, "It's been a dramatic improvement for Newman Technology. Now, material handling operators have instant access to real-time inventory location data directly from hand held devices. Workers easily pull up the location of inventory on the shop floor. They can see via the serialized tracking exactly where all inventory is located."

The new methods improve material handling and accuracy. Most significantly, there are no more negative balances on the records.

Notes Mark Williams, Senior Staff Engineer at Newman Technology, “With a real-time, serialized inventory process, up-to-the-minute inventory location data shows up in our records with just one scan. This represents a huge efficiency. We know where inventory is located throughout our multiple facilities, and no longer worry about conducting physical inventories or complicated work-arounds to track down negative balances.”

Newman Technology achieved 99 percent accuracy of inventory, and reduced inventory on-hand cost by 50 percent.

Concludes Williams, “By far the biggest business impact is having about 50 percent less inventory sitting on our warehouse floors. Before we used the serialized inventory tracking, we were forced to carry nearly double the inventory. Now as we move toward a “just-in-time” delivery strategy, we reduce on-hand inventory that does not tie up so much cash – a huge business benefit to our company.”

“We achieved 99 percent inventory accuracy, and cut inventory on-hand cost by 50 percent.”

About Plex Online

Plex Online, built on a Software as a Service (SaaS) Cloud model, offers more than 400 functions, providing manufacturers instant access to vital information and management features using a simple Web browser. The on-demand solution includes product lifecycle management (PLM) functions such as program and change management; enterprise resource planning (ERP) functions such as accounting and finance programs; customer relationship management (CRM) functions such as order entry and tracking; manufacturing execution systems (MES) functions such as production scheduling and machine integration; and supply chain management (SCM) functions such as supplier quality and traceability. For more information, see www.plex.com.



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