

A worker in a warehouse is using an industrial vending machine. The machine is a tall, blue cabinet with multiple shelves, each containing different items. The worker is wearing a brown jacket and camouflage pants. The machine has a screen and a keypad. The background shows other shelves and a warehouse setting.

Industrial Smart Vending: The Essential Tool for a Zero-Waste Operation

Technology enables better control of tool
and part inventory to save time and money



MRO and manufacturing operations rely on thousands of tools and parts every day to get jobs done. Getting the right materials to the right person at the right time can have an enormous impact on cost and efficiency and supports lean manufacturing principles.

Controlling part and tool inventory can lower manufacturing or MRO costs by up to 20 percent or more by eliminating wasted money on excess inventory, cutting time lost to looking for tools and reducing the chance for tools or parts being run out, pilfered or hoarded.



The traditional way to control MRO inventory is to use a centrally-located tool crib with restricted access requiring locks and/or staff to control consumption. This can create time-consuming delays when workers have to wait for someone to unlock the crib in off-hours or stand in line during the regular work-day.

SMART INVENTORY MANAGEMENT

Tier1MRO leverages technology to automate storeroom and tool crib operations across a wide variety of industrial and business applications. We recommend Autocrib™ equipment paired with our proprietary software and services to create a smart inventory management system for enterprises of any size. The net result is better control of crucial inventory, efficient utilization of labor, lower spend levels and a real-time window into consumption.

“Controlling part and tool inventory can lower costs by 20 percent.”

SCARCITY VS. ABUNDANCE

Our system reduces the level of part and tool inventory needed for an operation by creating a controllable sweet spot that lies between “scarcity” and “abundance” levels, with workers always able to know that they will have what they need, when they need it.

“The most efficient businesses operate with a scarcity (versus abundance) mentality when it comes to supplying MRO parts and tools,” said Michael Sheff, CEO, Tier1MRO. “Our systems allow parts and tools to be tracked

in real time – enabling the design of an inventory control system that is intrinsically based on the scarcity principle.” Companies that use our systems know that they won’t have to spend extra to overnight an item because they either can’t find it or ran out of it. And the workers know that the part or tool that they need for their job will always be there when they need it. The client sets the inventory threshold for safety stock and re-ordering. Our systems ensure those thresholds are continuously adhered to 24/7/365.”

OUR APPROACH

While we generally recommend Autocrib™ equipment and technology, Tier1MRO is vendor agnostic – with no obligations to any specific manufacturer or parts supplier. So our solutions are **custom-designed** for our clients, utilizing the best equipment/technology combination for their operational challenges. This allows more flexibility and control for companies over their MRO spend, compared with a parts supplier furnishing a ‘free’ machine that they restock.

“Often times, MRO Procurement managers purchase a multi-year, bundled package from an Industrial Supplier because they are offered “free” vending machines to control consumption. What they often overlook though is that by doing so, they have put the proverbial ‘fox in the henhouse’ ” Sheff says.

“These machines often sit as stand-alone tools and don’t integrate with companies’ ERP systems, which means they can’t track part usage unless someone regularly makes a manual intervention to collect the data.” The net result is a sub-optimal level of spend-reduction due to machines breaking down or consumption data not being regularly collected and analyzed.

“Forward-thinking companies are looking for smart vending solutions that integrate with existing ERP systems. Tier1MRO’s proprietary software provides that integration and increases visibility automatically into tool and parts consumption.”

At the end of the day, Tier1MRO supplies the equipment and the technology to meet the needs of the job, providing a scalable solution for a variety of applications. The company provides full support on an ongoing basis with either full turnkey, on-site help, or can train a team to be self-sufficient.

EXAMPLES OF HOW TIER1MRO HELPS BUSINESSES TRANSFORM:

1 Create a More Efficient Operation

AVIATION MRO

The typical commercial aircraft has 6 million parts. And there are countless precise, specialized tools needed to service those parts. On top of this, there are stringent regulations from the Federal Aviation Administration requiring full traceability on parts used on aircraft. All this creates a very complex MRO operation requiring highly skilled (and highly paid) mechanics and technicians.

“Without smart vending control you would have these mechanics and technicians hunting through a storeroom of bins to find the parts they need. Or, worse, waiting in line to get to the storeroom to get what they need,” said Craig Brooks, Business Development Manager for Tier1MRO.

For example, using Tier1MRO’s smart-vend solution, a mechanic that needs to rebuild a flap kit on a 727 has a barcode for the recipe for the rebuild kit. He or she simply goes to the machine, swipes their badge and then barcode scans the recipe for the rebuild kit. The machine network will dispense and track the parts needed automatically.

In addition to creating a more efficient operation, using smart vending control makes it easier to trace what parts are used and where they are used.

“What we provide is full traceability on where those parts went, which is required by the FAA,” Brooks said. “And, our system passes that information, not only to the supplier, but also the end customer. You’re getting detailed information on who worked on which plane, at what time, what parts they pulled and what account they charged them to.”

This rich data facilitates better prediction on the need for parts, insight on the total spend on parts, and defines what critical spare parts you need to keep on hand. It also reduces the need for inventory cycle-counts and gets the work done more efficiently.



Data from using Tier1MRO can provide better prediction on the need for parts, insight on the total spend on parts, and defines what critical spare parts you need to keep on hand.



EXAMPLES OF HOW TIER1MRO HELPS BUSINESSES TRANSFORM:

2

Support Workers on the Go

PUBLIC UTILITIES

Smart vending also can make a distributed workforce more efficient.

For example, a power-grid management company has a storeroom full of high precision tools that need to be re-calibrated on a constant basis to remain in compliance. The service engineer can scan his or her badge to gain access to these tools as needed for each job before leaving the shop to make service calls. At the end of the day, the tool is scanned back into inventory, making it available either to the other service engineers or for recalibration as needed.

In addition, the team uses the AutoCrib system to gain detailed reports on expiring calibration dates. Ensuring the tools are always calibrated before the need arises for the engineer to use that tool. The tool's ownership chain can be tracked via an RFID chip attached to it. This can help prevent a worker from trying to track down a tool that might still be left in another engineer's truck.

"The engineers can be sure to get the tool they need when they need it," Brooks said. Smart vending can also be used to track and control distribution of various types of Personal Protective Equipment (PPE) that are commonly used in public utilities and other industries.



Smart vending can also be used to track and control distribution of Personal Protective Equipment (PPE) that are commonly used in Hospitals, Public Utilities, Manufacturing facilities and many other industries.



EXAMPLES OF HOW TIER1MRO HELPS BUSINESSES TRANSFORM:

3

Indirect Inventory Control

MANUFACTURING

For manufacturers, indirect materials are essential to an efficient operation. Tools, parts, PPE, chemicals, and supplies are all crucial, and must be on hand when needed. Lean organizations need to find the balance between having enough of these items to safely perform the work yet prevent an oversupply that can put them over budget and lead to unnecessary waste.

Automating the operation with industrial vending creates an efficient, documentable process to get workers the items they need when they need them and allow them to remain focused on their jobs.

In this example, an employee will simply walk up to a vending machine and scan his or her badge. The machine will access a database to know which tasks this employee is assigned to and will distribute parts, tools or PPE as required for their tasks. Meanwhile, inventory levels are adjusted in real-time and new items are ordered automatically once a pre-assigned safety-stock minimum is breached to replenish supplies as needed. All this is documented and tracked.

“People are busy and a lot is expected of them,” Sheff said. “And if you have a technological tool that allows them to have what they need when they need it to safely perform their jobs, then that allows the entire enterprise to operate more efficiently and at a lower total-delivered cost.”

Aviation MRO, Public Utilities and Manufacturing are just three examples of how smart vending can create a more efficient and cost-effective operation, using technology to better track and control consumption.

Want to learn more? Visit Tier1MRO.com for more information.



Automating the operation with inventory technology creates an efficient, documentable process to get workers the items they need, when they need them.





Want to learn more?

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