

Introductory Overview

Matrix is an automated point of use dispensing and inventory management system. It is characterized by secure, consumables/indirect inventory storage and dispensing system that has the ability to be fully integrated into a manufacturing organization's Enterprise Resource Planning (ERP) system or similar Inventory Management system (i.e. MRP, MRPII). This integration enables the organization to monitor usage and allocate costs incurred within, and directly to, the manufacturing work cell. This allows the organization an unprecedented level of control over usage rates, wastage, obsolescence and shrinkage (pilferage) of consumable indirect products. Another advantage of this system is the integration of vendor managed inventories, as a lean manufacturing technique to manage manufacturer's costs on a pay per use application.

Iscar Australia distributes Matrix hardware and software in the Australian market and use Matrix as a complementary product supporting its Total Tool Management (TTM) supporting manufacturers. Iscar Australia has set up a new Commodity & Tool Management Services division, CTMS, to market, sell and distribute the Matrix in Australia. The product offering is defined as Matrix Vending (the vending unit), and supports the Total Tool Management (TTM), and Vendor Managed Inventory (VMI) solution to Australian Metal Cutting Manufacturers. The timely process of identifying cutting tool requirements, ordering from multiple suppliers, stocking and distributing tools to high technological application, accounts for substantial cost. These costs can be greatly reduced by a minimum of 15% in the first year by utilizing the Matrix/Vending for TTM/VMI solutions.

Product Concept

Matrix is a Total Tool Management (TTM) system. The proprietary software at the heart of Matrix is installed on a stand-alone computer and from this all dispensing machines can be added.

TTM offers the ability to effectively and efficiently manage inventory usage through the introduction of core accountability and security features inherently offered in the Matrix product.

The Matrix system is designed to provide the capacity of manufacturing cell requirements in close proximity to the manufacturing cell in order to reduce the costs associated with inefficient stock replenishment strategies. This means that machine operators can remain in close proximity to their machining centers, rather than leave their respective areas to replenish tool or consumables stocks.

Integration into generic ERP software is achieved through interfacing software/hardware attached to the Matrix unit. This hardware/software solution ensures security and accountability by only allowing authorized access (swipe card/barcode) to the component requested. The interfacing software is then able to provide real time inventory data from a “cellular” perspective through the whole organization’s supply chain. This level of visibility is important to clients in terms of enhancing the potential supply chain efficiencies and stock cost control.

The software also enables automatic re-order triggers within the purchasing organization. These automatic re-orders can be automatically directed to supplier, allowing for a seamless TTM/VMI system.

Firms implementing TTM systems have shown reductions of consumable inputs by 10-40% p.a. through reduced wastage, obsolescence and pilferage, representing a direct saving potential.

Marketing Needs

Common needs within manufacturing industries include the need to increase productivity, cut costs, increase accountability and reduce downtime.

Needs addressed by TTM solutions include:

- Requirement for an accountable method of consumable / reusable inventory management
- Requirement for storage system that offers security and accountability
- Need to track and reduce consumable inventory usages
- Need to track and increase reusable product life
- Need to reduce downtime due to restricted access (due to location / controls) to tooling and consumables
- Need to increase productivity by locating tools / consumables in close proximity to manufacturing cell
- Need to reduce overhead by reducing need for central storage space and manual controls, including labour.
- Need to control costs
- Need to minimise / eliminate downtime due to stock-outs

Needs addressed by VMI solutions:

- Need to eliminate cost of working inventory - customers no longer wish to tie up funds in inventory, preferring for suppliers to consign the stock and only pay for use.
- Need to minimise / eliminate downtime due to stock-outs.
- Need for supply chain management efficiencies – vendor managed inventory provides vendors with greater visibility on customer requirements thus enabling inventory forecasting accuracies and a reduction in the “Bullwhip Effect” (Simchi-Levi, D. Kaminski, P. & Simchi-Levi, E. 2003, pp.108).

Core benefit / USP

The USP of the Matrix is that it is the only TTM system to offer a combination of ***100% accountability with a range of modular dispensing units customizable to most customers' needs and compatible with all leading inventory management software platforms.*** The program designed to monitor usage spikes, automate stock re-ordering via LAN through email or MRP, 100% modular with add on units link via LAN, Kit building and tracking (opening bins to a number of components that join together to make tool, then tracking tool location), capacity to monitor and calibrate tools on time or usage, force the usage of re-grind tools before new tools, etc.

Augmented product

The augmented product is the Matrix VMI solution, which offers all the benefits of the Matrix TTM with the added benefit of eliminating idle inventory costs (as inventory can be consigned) and transferring all inventory management responsibility to the supplier/vendor, thereby reduce admin and labour overhead.

Iscar Australia (www.iscar.com.au) is a subsidiary of ISCAR Ltd. (Israel), "one of the world's leading producers of industrial cutting tools for the Engineering industries." ISCAR provides industries with metalworking tools and solutions for all metal industry applications. Iscar Australia's primary business focus is in the metal cutting and carbide tool technologies.