

MATRIX

The First Step to Your Cost Reduction



Member IMC Group
Tungaloy



INDEX

4 Do any of these sound familiar?

6 MATRIX does it all!

10 MATRIX options

Customer Reviews

Visit tungaloy.com/matrix to check out
"MATRIX's Efficiency Calculator"

Do any of these sound familiar?

- Typical production floor issues

Cost pressure

Need to drive down cost per unit, but don't know where to start...

Guesswork and manual stock management

Stockouts are common, causing longer lead time, production delays, and sales loss...

Unorganized production floor

Operators are losing valuable time looking for tools...

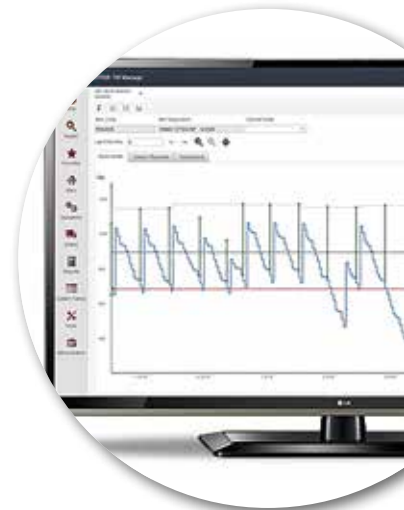
MATRIX

Does it all!

Identify the cost drivers

With MATRIX's cost analytics and consumption statistics

Quick overview of transaction history per workpiece, job, employee, and machine, enabling detection of demand spikes and underperforming tool life



No more stockouts

MATRIX's automatic purchasing module for optimal ordering process

Optimal stock levels and re-order points are automatically calculated from previous usages to maintain maximum availability with minimum stock



Organize your production floor

No more wasted time looking for tools

Automatically calculate optimal stock levels and re-order points based on historical usage data. This allows you to maintain tool availability with the minimum necessary inventory. Plus, our system sends automatic email alerts, ensuring you place orders at the perfect time.



Identify the cost drivers

With MATRIX's cost analytics and consumption statistics



Spending too much time on manual data sorting and there is no time for planning cost reduction

Key performance is just a few click away allowing you to focus on cost savings!



Transparency

MATRIX-TM's intuitive graphical interface provides a quick overview of complete transaction history **by workpiece, job, employee, and machine**, allowing better planning and cost reduction.



Quick access to all vital data

MATRIX simplifies inventory reporting by providing quick access to current, crucial inventory data. With a customizable Dead Stock Report that defines the period for stock to be considered inactive, **MATRIX ensures maximum availability with minimal stock.**

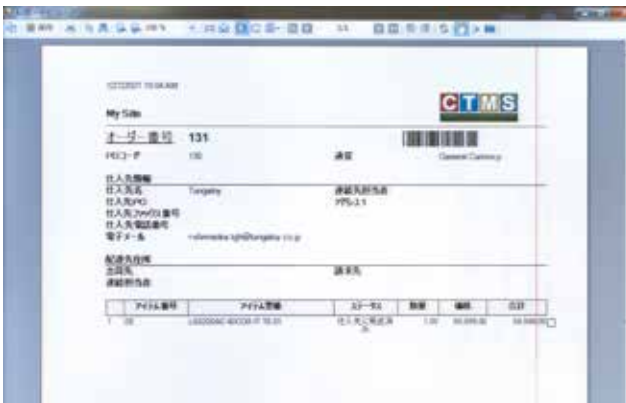
No more stockouts

MATRIX's automatic purchasing module for optimal ordering process



Frequent stockouts and rush orders for replacements

MATRIX's automatic re-order point calculation feature streamlines your purchasing process



Automated orders

The **MATRIX-TM** system automatically calculates minimum stock levels based on previous usage and reorder points. **This enables your shop to maintain optimal stock levels, even for slow-moving inventory and special products.**



Optimized stock levels

MATRIX-TM system can set a maximum stock level, eliminating the fear of carrying excess stock. Transfer Order function allows **stock transfer between multiple Matrix units within your company, maintaining optimal stock levels.**

Organize your production floor

No more wasted time looking for tools



Your tool is not where it's supposed to be when you need it...

With MATRIX's full tracking feature, you can organize your production floor so you'll know exactly where to find the tools when you need them



Only the right tool for each job

Each bin is associated with the item it stores, requiring no more than 10 seconds for an item to be issued. **This also prevents mixing up inserts with different nose radii, ensuring they're used for the right job.**



Flexible integration with external cabinets

MATRIX can manage the items not only in its cabinet but also pre-existing external inventory in your manual cabinets, lockers, or cages. Whether, they are tools, gauges, grinding wheels, fixtures, and MRO, **MATRIX manages your entire inventory in all locations**

and more from

MATRIX's Smart Features

Here are four key MATRIX features designed to enhance your smart inventory management.

1 Manage inventory in multiple remote sites

MATRIX's networked data system allows you to access inventory data remotely from your PC monitor. Multiple master cabinets deployed in different locations are connected to run from a single common database.

2 Display KPIs all on one screen

Dead stock and stock surplus reports, item shortages, and overdue orders... The MATRIX analyzer displays **all the latest key performance metrics, helping decision-makers focus their attention on continuous improvement for cost savings.**

3 Issue a group of items all at once

Simply create a list (a kit) with item descriptions and quantities, and MATRIX will continuously issue all the defined items in sequence, **allowing you to access a group of items you need all at once.** In case of an accidental error, you can easily correct the issue transaction using the 'Change Issue' button.

4 Prioritize issuing reworked tools before new ones.

Shop operators tend to choose new tools over reworked ones, which can lead to old tools remaining in stock. To address this, you can enable the 'Force to issue old items before new items' option, **allowing the system to issue items in the desired order.**

What our customers

0% shortage on tools Streamlined inventory management



Kyoetsu Industry Co., Ltd.

Industry: Die and mold
Number of employees: 13

Before

Our CAM operator, an expert on tools, handled both tool inventory management and order placement. The tool cribs were located on the second floor of the shop close to the CAM operator so he could physically access the tools to check their specifications and stock levels, and the machine operators had to go upstairs to issue or return the tools they needed for machining.

As our business expanded, we hired more workers and used more tools. The manual inventory tracking method no longer could keep up with the pace, which required over eight hours every month to place orders. It started putting pressure on our manager's primary role as a CAM operator, so we began looking for a more efficient and effective way to manage our inventory. At first, we felt unsure of the cost benefits MATRIX was said to bring us, but it was a big success.

Benefits

MATRIX automatically calculates the appropriate number of tools to be ordered, which allowed anyone on the shop floor to easily place orders regardless of knowledge on tools. Alerts are emailed before hitting the minimum stock level, so we were able to eliminate stock shortages also.

Thanks to MATRIX, the workflow and efficiency of the entire production team improved significantly. The tool cribs are now located on the ground floor, allowing the machine operators to quickly access the necessary tools without going upstairs. Also, the CAM operator could easily check the sizes of the tools by remotely accessing MATRIX from his computer on the second floor. MATRIX no doubt helped us boost our productivity, so it was worth the investment.

MATRIX encouraged us to take proactive initiatives for kaizen



Thyssenkrupp rothe erde Japan

Industry: Bearing
Number of employees: 219

Before

Our tools were kept in traditional cabinets. When we take out a tool, we wrote down the quantity, date, and the user's name on the paper. Many times, the actual quantity didn't match the records because someone forgot to document it or wrote a wrong information. As for ordering, we set minimum stock level and asked our workers to place orders as needed, but they often forgot to contact the suppliers. We had no choice but to increase our inventory and reduce the frequency of our orders. Hoping to improve these situations, we started to consider installing MATRIX on our production floor.

Benefits

Now, anyone can easily take out the right tools, which greatly improved each person's workflow and significantly reduced the time spent on tool management. In addition, since we can check and analyze highly reliable, transparent data in real time, the awareness of tool management has increased throughout the company, and many employees proactively made efforts for "kaizen" (improvement).

Our internal communication has also accelerated, and we managed to reduce tool costs by eliminating shortages on our inventory as well as ordering unnecessary items. We are happy with the MATRIX's user-friendly, intuitive screen, which allowed us to start using it immediately without the need for extensive training. Its simple design is also popular among our employees as it fits in very well in our factory floor.

Customers have to say

MATRIX を愛用頂いているお客様から、導入に至った経緯や MATRIX の効果を伺いました。

We achieved a significant inventory reduction of 16 million yen!



Kashiyama Industries, Ltd.

Industry: Manufacturing and distribution of vacuum pumps
Number of employees: 785

Before

We were struggling to reduce the enormous amount of time spent on ordering processes. When our operators needed a tool, they manually recorded it on a paper, but they often forgot to write it down. As a result, the actual inventory didn't match our record, and we spent a lot of time trying to determine how many items we needed to order. In addition, some items were out of stock when we needed them while some remained unused, which delayed our production and reduced our profit. This is when we met MATRIX during a visit to one of our customers, TAC Corporation; we immediately started considering buying it for our business.

Benefits

MATRIX allowed us to accurately grasp tool consumption rates and helped us quickly order necessary items at the perfect timing. Due to the optimized inventory level, we managed to reduce inventory worth 16 million yen within just 4 months of using MATRIX. This is much more than we expected, and we're very glad we added MATRIX to our production floor. In addition, since MATRIX issues only the right tools for the job, we were able to reduce defective products caused by using wrong tools.

MATRIX opened the door to a lean business structure



TAC

Industry: Wholesaling of machine and metalworking tools
Number of employees: 50

Before

We began considering MATRIX to better manage our inventory of more than 10,000 items stored for sale. Our main challenges were: (1) A slow response to customer inquiries about available items, as we had to visit the warehouse to check and reply. (2) Limited access to inventory data from our remote warehouses, resulting in overlapping product lineups across locations. (3) Time consuming stock taking processes due to manual work. We chose MATRIX to address these issues, and we were also drawn to its easy-to-use GUI and smart cabinet design that looks great in our office.

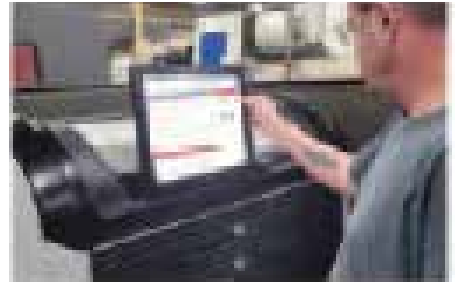
Benefits

MATRIX has greatly improved our response time to customer inquiries. When customers call to ask about tool availability, we can now check stock status directly on our PCs and reply immediately without needing to visit the warehouse. We can also view the inventory status of all four warehouses from one screen, allowing us to reduce duplicated items across locations. In addition, MATRIX has simplified our account closure and stock taking tasks. Previously, multiple workers had to physically count items, but now all quantities and values can be extracted from the system with just a few clicks, saving both time and manpower. We will continue to accumulate and analyze usage data to reduce slow moving stock and replace it with high demand items, all with the goal of building a stronger inventory system that meets our customers' needs.

規模や用途に合わせた最適モデルをご提供しています。

What our customers

MATRIX increased our production output and reduced machine downtime



Dayton Precision Aerospace

Industry: Medical and Aerospace
Number of employees: 25

Before

Every Friday afternoon before the second shift came in to work, we found ourselves running out of certain cutters and inserts because we didn't realize our tools were low in stock and forgot to order them. This was a big problem as we had to either stop our production line or change machine set ups to work with alternative tools. Even if we managed to machine the products using other tools and maintain our production output, we suffered from machine downtime, which, in the end, costed us extra money on labor and manufacturing overhead.

Benefits

MATRIX allowed us to accurately keep track of tools on hand as well as how frequently we use them. This information helped us order our tools in time, so our second shifts now have all the items they need for production. We never have to worry about running short on customer orders or stopping the machine to set up alternative items just because we forgot to order our tools. This was precisely what we were looking for, so we are very happy we purchased MATRIX to solve our problems.

The total value of our purchase orders decreased 15%



TALLERES DISFRAN MORENO, S.L.

Industry: General Machining
Number of employees: 20

Before

Our company was expanding with Industry 4.0, buying new CNC machines to improve our products and to reduce our production times. We were also recruiting new operators for these machines. When it came to storing tools, we used a traditional inventory management method with cabinets next to CNC machines or in the storage room. However, we didn't keep track of the quantities. If an operator found a tool out of stock, he would ask the production manager or the purchasing manager to order it from a supplier. Tools don't appear magically in a second, so we would stop the machine to wait for them to arrive or change the setup to use a different tool. Sometimes, the tool never came in because we forgot to order it, which meant even longer machine downtime. Not to mention that an operator might have looked all over the company to find the production manager to order these missing tools. To make sure we don't run out of tools, we have ordered too many items and had deadstock in the past. There was also a time when we had duplicated an order for an expensive tool because we didn't know whether we had the tool in stock. Obviously, our inventory was poorly managed with a lot of money invested in unnecessary items.

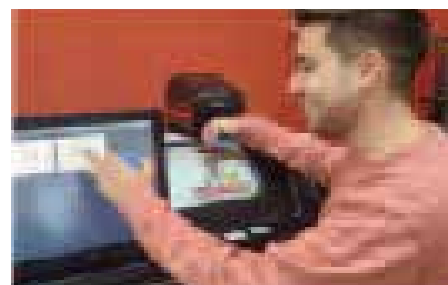
Benefits

MATRIX's software allows us to control 100% of our tools and maintain just the right amount of stock for 1 week of machining operations. The system helps us eliminate unnecessary stock of items, which led to 15% decrease in the total value of purchase orders the first year we started using MATRIX. Our target for the next year is to decrease overstock even more to reach 25% reduction in the value of purchase orders. Our purchasing department is now better coordinated with accurate and reliable inventory data from MATRIX and knows the appropriate re-order dates and quantities. The MATRIX system also helps our operations management by allowing us to monitor and keep track of tools used by each operator for a specific job on a certain CNC machine. This feature has helped us make sure the same tools for the same amount are used for the same job regardless of the operator. Our operators have also benefited from MATRIX. The technical department prepares the list of tools needed for each job, and this information is stored in MATRIX. Operators simply look up the job number in the system to retrieve all the required tools. MATRIX allows them to only take out the relevant tools, so operators are basically 100% self-employed without the need to confirm their production managers which tools to use for the job. This has helped us decrease our machine downtime by a large number. What's even more fascinating is that all the information is in our hands with just one click. Before we had MATRIX, we invested a lot of time gathering data and analyzing it. Now, we can just open the MATRIX software on our computer to review our tool consumption and analytical reports quickly and easily.

Customers have to say

MATRIX を愛用頂いているお客様から、導入に至った経緯や MATRIX の効果を伺いました。

MATRIX helped us monitor our tool inventory and usage as well as allowed us to place orders at the best time



Centre de Formació Pràctica de Manresa (CFP)

Industry: Technical school

Before

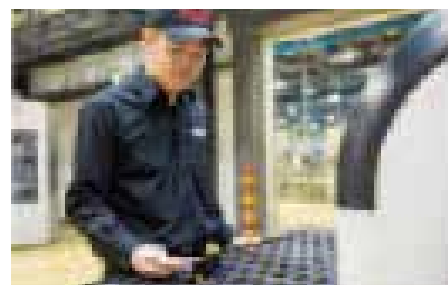
We are a technical school for metallurgy with CNC machines, CNC lathes, metrology machine, tool presetting and measuring machine, manual machines, bending machine, etc. Even with all these various machines, we didn't keep track of our tools in terms of their stock and locations.

Our students used tools freely during the courses throughout the year, and it was out of control. We didn't know where the tools were, how many we had, and who used them. Moreover, as we prepared to teach our students the concept of Industry 4.0, we asked ourselves, "How can we use these tools and machines to show that they are related and can be managed digitally?"

Benefits

MATRIX provided us the control we needed on our tools and helped us teach Industry 4.0 to our students. We now know exactly where each of our tools are located and its quantity. Every student or teacher has an ID and password that are used to access MATRIX. Because of the account management feature, we have a clear understanding of who used which tools during the courses to machine materials. Also, we organized the tools by course subjects so students can easily and quickly search for the tools they need for a specific class. In terms of Industry 4.0, we created an interface with our tool presetting and measuring machine. We can remotely investigate the current stock of any tool for the machine and also be notified by MATRIX when the inventory drops below the minimum stock level for order placement. These features helped our students understand the concept of Industry 4.0.

Tool costs reduced by 16.7%! Also contributes to training of human resources



Tungaloy Corporation

Industry: Cutting Tool maker
Number of employees: 1,500

Before

Only 1 person handled inventory management of over 2,000 tools and devices. We often forgot to order necessary items and also found ourselves looking for missing tools. Furthermore, inventory discrepancies in our annual stock-taking amounted to millions of yen, which required extra days for recounting and adjusting. It was time to say goodbye to manual inventory management on our floor.

Benefits

MATRIX helped us reduce 16.7% of our tool costs by eliminating the use of wrong tools for machining operations and stopping unnecessary orders for slow-moving items. MATRIX's analytical features also contributed to the development of our human resources on the production floor. There was a time when the total number of tools consumed in one production line amounted higher than another line that machined the same component. After reviewing the data from MATRIX, we learned that the difference in the tool usage came from the operators' skills and experiences. We quickly asked the high-skilled operator (who used less tools) to train the other operator for better tooling. The report that only took 1 minute to extract from MATRIX helped us improve our worker's machining skills, which added value to our production for many more years to come. MATRIX also reduced the problematic stock-taking discrepancies to 1/10 and reduced the time required for stock-taking by over 50%.

規模や用途に合わせた最適モデルをご提供しています。

MATRIX Options

Whatever your storage and tool management needs
MATRIX has the right solution!

New Next-Generation Tool Management Cabinet!!

MATRIX 360

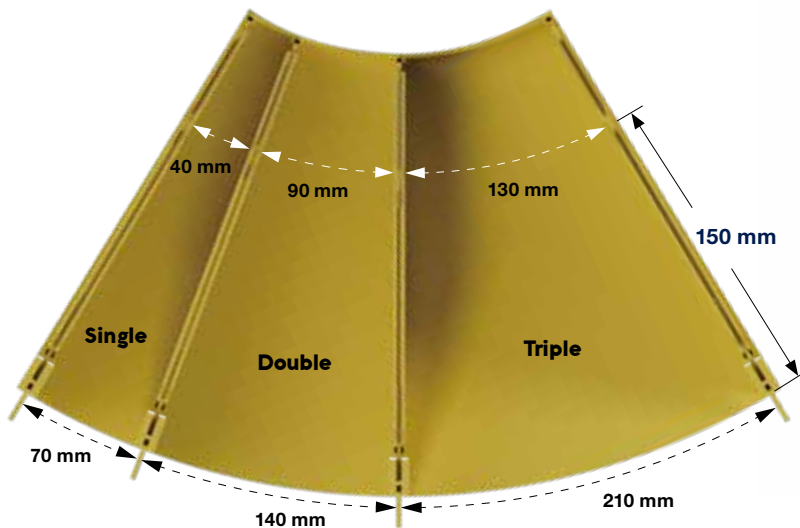
- Carousel style cabinet
- TOUCH and POD versions
- 22" touchscreen
- 16 drawers
- Storage space can be resized for single, double, or triple configurations.
- Drawer : Up to 35 storage spaces per tier (for single drawers)
- Cabinet dimensions :
870 mm(W) x 900 mm (D) x 1900 mm (H)

Storage Space Specifications (Width, Depth, Height)

Single: 70 mm (W) x 150 mm (D) x 70 mm (H)

Double: 140 mm (W) x 150 mm (D) x 70 mm (H)

Triple: 210 mm (W) x 150 mm (D) x 70 mm (H)



Adjustable with dedicated pins



Examples of storage tray photos



Cabinet with lid style



[First choice]

MAXI

- Monitor optional (first unit requires monitor)
- Cabinet dimensions :
1180 mm(W) x 752 mm(D) x 1469 mm(H)



[First choice]

MINI

- Smaller than MAXI and mountable on top of DLS 4D type
- Monitor optional (first unit requires monitor)
- Cabinet dimensions :
860 mm(W) x 581 mm(D) x 800 mm (H)



New

More intuitively on a larger screen.
MAXI evolves into premium!

MAXI Premium

The basic specifications of MAXI remain unchanged, while the larger screen enhances operability.

- QR code reader and fingerprint reader included as standard
- Your company logo can be printed on the side of the cabinet upon request
- 2 year parts warranty
- 24" touchscreen

[Drawers]

Available in four depths: 50 mm, 75 mm, 100 mm, and 125 mm

More than 30 drawer layout options available

Layout can be calculated if the item's case dimensions and maximum quantity to store are provided.

Drawer examples

We also offer a tray loan service!

Actual trays can be loaned.

By storing your items in the trays, it's easy to experience the setup and quickly determine the optimal number of trays.

For details, please contact our sales department.

Examples of loaned trays



Example of drawer dimensions



50 mm
50 mm
75 mm
125 mm
125 mm
125 mm
125 mm



75 mm
75 mm
75 mm
75 mm
75 mm
100 mm
100 mm

Example of drawer





DLS13D / 8D / 4D

Economy Series with Open Trays

- 13-tier / 8-tier / 4-tier configurations (DLS 4-tier model available without monitor only)
- 24" touchscreen
- Load capacity: 180kg per tier
- Flexible layout customization
- Auto-lock function on each tier
- Cabinet dimensions :
 DLS13D / 8D: 915 mm (W) x 610 mm (D) x 1220 mm (H)
 DLS4D: 915 mm (W) x 610 mm (D) x 820 mm (H)



DLS-V 5 D

Cabinets dedicated for storing toolholders

- Storage shelf tray for 6 holders (with HSKA63, C6, 40T connections) or 8 holders (with 30T connections)
- Up to 3 racks/drawers can be configured
- Mountable on DLS4D cabinet
- Cabinet dimensions :
 915 mm(W) x 610 mm(D) x 1070 mm (H)



Optional

MATRIX ANDROID

MATRIX Dedicated Terminal with Barcode Reader
Manage tools and products stored in existing external shelves
Can be managed with a handheld device
No need to travel across the large factory floor
* Requires a Wi-Fi environment capable of communicating with the MATRIX PC.



Other Lineup



該当箇所のみ点灯



必要個数だけ取り出し可能



TOOLPORT

- Mechanism that allows retrieval only in selected quantities.
- Ideal for managing high-cost inserts like CBN and carbide heads
- Enables retrieval and management of inserts
- 4-tier specification: Holds up to 800 inserts
- 8-tier specification: Holds up to 1600 inserts
- Dimensions :
 - 8-Tier Model: 676 mm (W) × 630 mm (D) × 1475 mm (H)
 - 4-Tier Model: 676 mm (W) × 630 mm (D) × 905 mm (H)

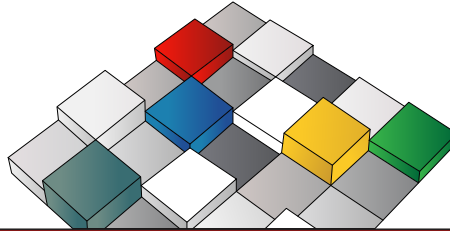


TOOLPORT 4x4 HYBRID

- TOOLPORT 4-tier, DLS Type 4-tier specification
- Recommended for those needing fewer storage units
- Monitor: option available

WIZ (補完用)

- TOOLPORT 4-tier, DLS Type 4-tier specification
- Recommended for those needing fewer storage units
- Monitor: option available
- Cabinet dimensions :
 - 914 mm (W) × 457 mm (D) × 2070 mm (H)



MATRIX

The First Step to Your Cost Reduction

tungaloy.com/matrix



11-1 Yoshima Kogyodanchi
Iwaki 970-1144 Japan
tungaloy.com

Distributed by:



 FIND US ON THE CLOUD!
machiningcloud.com