RFID Tool & MRO Tracking...
Technology Programs Enhance Processes and Saves Cost

executive white paper

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“Everything was done separately. What one facility did wasn’t exactly what the other was doing. With the new system it’s like one big factory with a lot of toolcribs.” - Jim Edwards, Business Systems Manager, Boeing Commodities Standardization Initiative Team
For a technology to take a strong hold in the marketplace, it must directly solve a known challenge or support the process improvement needed to overcome this challenge. RFID moved into the spotlight when WalMart and the DOD began to push the rapid development of the technology. The goal was to improve the processes surrounding logistics, delivery and receipt of product. This was the driving factor behind the rapid technology advancement of the last 5 years.

Although RFID has made an impact on the logistics side of things, it has not been an easy road. Process improvements have been made and standards established, but I think everyone would agree it hasn't proven to be the "pie in the sky" as it was once being billed. While the primary media focus remained the logistics side of RFID, a few innovative small companies were finding unique uses of RFID technology that did directly solve a known challenge.

In the background many asset tracking applications were being developed to monitor high cost machines, IT equipment, hospital assets, amusement park rides, tools and MRO supplies. This "closed loop" use of RFID has become amazingly popular and has proven amazing ROI.

As a member of a company that was leading the marketplace with a robust bar-coding application to manage tool and MRO inventory, RFID began to intrigue us, and the president of our company, Mr. Larry Harper began to really see a vision. One of the challenges with having software within a tool crib was that it still left a person responsible for checking out the tools or supplies to an employee. Larry began to see how an RFID portal could eliminate the need for human interaction and still trigger the transaction. And so we went on the journey of discovering about RFID tool tracking.

The management of MRO supplies and tools is one of those areas that really has had a lack of focus. Very few processes have been defined and supply chains are also very remedial. The reality is for the average manufacturer the spend for MRO and tools is less than 10% of their overall spend. Because of this, it has not been given the attention it really deserves. Although it is less than 10% of the overall spend, the amount of processes dependent on having this product on-hand and built correctly into the manufacturing process are overwhelming. The amount of direct cost is substantial but the indirect cost is often times mind blowing.

RFID technology provides the ability to accurately track this inventory reducing costs and improving process flow resulting in substantial bottom line savings. Not only do you have an immediate direct cost of inventory savings because of increased accountability, you begin to see process time saving. Actually, you may not have even realized how much it was costing you. For example, it has been reported to us that an RFID portal used to manage a crib area
RFID Tool Tracking Basics

can reduce wait times at the crib by 60%-90%, issue and return time can be reduced by 50%-90% and reduced labor cost by 40%-80%. These calculations are just the cost reduction based on process improvement. The software driving the system typically returns users cost savings like; reduction in lost tools, reduced carrying cost, reduced usage based on accountability, reduction in obsolete inventory, reduction in overstock inventory, and a whole lot more.

So what do you have to do to understand if RFID can help you track tools or MRO supplies? First of all take an objective view of your current processes and look for areas of improvement. With RFID in particular, ask yourself if there is a great deal of wasted time in that process. Ask yourself if there are areas of resisted flow or areas that could benefit from automation. In particular, RFID can help you develop an unrestricted process flow which in turn returns dramatic savings based on increased production and less down time searching for material or waiting through a process that was never really well thought out.

Manufacturers who have taken this route have proven successful implementations with an average of 4 months or less to achieve their ROI. In fact, many of the customers who achieved that ROI had already defined integrated supply processes but had an unmanned shift. RFID has also produced huge savings and safety perks with foreign object debris (FOD) tracking in aerospace manufacturing facilities. RFID controlled toolboxes monitor when things are missing and where they may be. The risk of leaving a tool on an aircraft that is being assembled is greatly reduced as well as the manual process of checking each toolbox drawer to ensure tools have been returned. Integrated supply relationships have improved with RFID because now the need for the supplier to run to the facility to take counts is eliminated and replenishment is automatic.

Tool and MRO tracking is an area that can prove substantial savings in a short period of time using RFID technology. I will tell you that RFID does directly solve a known challenge and support and improve the process change needed to overcome this challenge. So you should begin a tool and MRO tracking program today and begin to reap the awards.

"Since the introduction of CribMaster at the Ford Dagenham operations plant, they are proud to announce they have been awarded a Grade 7 within the Industrial Material Flow (IMF) accreditation on Lean Manufacturing procedures." - Kardex Systems UK Case Study, 2001
A Discussion About
Enterprise MRO Management

Supply chain, contracts, integrators, suppliers, safety stock, consignment programs, lot numbers, expirations, re-grinds...all of these are familiar terms when dealing with tools and MRO inventory at the plant level. Do they really have to be managed at the plant level? The answer is simple...of course they do!

Many times we have seen corporate decisions to build an enterprise-wide MRO program that actually causes harm to MRO management that may have been effective at the plant level. So how do you rope it all in? How do you create an enterprise program that provides continuous improvement, dramatic cost savings and the visibility to optimize tool and MRO inventory across the entire enterprise? How do you do this by improving the operations at each plant and not harming what is successful? Good questions...right?

To begin to uncover how to accomplish this goal, let's look at what not to do. Many corporate supply chain managers or purchasing officials that are responsible for MRO buying decisions are overwhelmed by the complexity of this challenge. So many distributors, so many products, so many identification methods, so many unique systems and not so many hours in the day or resources in the organization to take it all on. Each of the individual plants have business relationships they have nurtured for years, for whatever reason, and the number one thing not to do is to immediately upset the wagon wheel across the enterprise. If the plant manager and engineers are convinced through research that a certain tool performs better than another, you may not want to force a replacement until you have proven otherwise. So many times, corporate pushes orders through their plants without thinking about the underlying tone of distrust that is sent to their many employees. Often times this causes disruption and non-acceptance of these programs. As I stated earlier, MRO inventory has to be managed at the plant level. Forcing each plant to break current business relationships they have invested in, change product suppliers, change products and have no overall input into what will work for them is a sure way to get push back and a very good chance for a program to not be nearly as effective as it could be.

Another important thing not to do is to negotiate corporate contracts based on previous purchasing information. That may seem like a very odd thing to say but allow me to explain. Most of the time, this is exactly how supplier contracts are negotiated. Often times, there is no other choice. The information you are able to retrieve from individual plants is what was purchased within a previous time period. Why is this a problem? Well the real truth is that without a good system designed to distribute and optimize inventory at the plant level, there is a considerable difference between the actual usage of inventory vs. the purchase. Without a process in place that leaves workers confident that inventory will be available when they need it, there will be hoarding. Without accountability methods in place when distributing inventory, there may be pilferage and lost inventory. Without usage limits estab-
lished and cost center tracking upon issuing the inventory to the shop floor, there will be miss use. Without proper bin level monitoring by actual usage, there will never be optimization. Without any of these, there is continual overuse and MRO purchasing records which are way out of skew. So if your contracts are based on past purchasing figures, you are not accurately portraying what your actual usage may be under an effective program.

I can continue to go on and on with what not to do, but I think I would rather bring it down to some simple steps to consider when taking an enterprise look at MRO.

The Ultimate Goal - Reduce Cost
Maybe your overall goal of an enterprise-wide MRO program is to reduce cost? For most everyone this is the overall goal. So if we begin to break down that cost...where do you want to save? Maybe you want to consolidate suppliers and negotiate better supply contracts...but who is doing the best job? Maybe you want to improve accountability at the plant floor, but there is no consistency across your plants on how to begin. Maybe we want to reduce labor involved with MRO management...but how does that help you improve an already flawed inventory management program? Maybe you want to hand the entire challenge to an integrated supplier and let them staff, supply and manage everything...but how can they do it if you can’t accomplish it yourself?

You see, reducing cost is a result of an action that is often times thought of as short term action by corporate. Granted we all want it to be an overnight success, and we can definitely begin to have savings results immediately with a little focus. But, MRO continuous improvement is a long-term plan. Your enterprise-wide plan should start by:

1. Implementing a system to manage MRO usage and purchase. Not just purchase.
2. Implementing a system that can retain current business relationships while gathering analysis information to make good, informed business decisions on supplier performance.
3. Implementing an enterprise-wide system that has little impact on shop floor processes yet provides inventory in a timely, more convenient manner.
4. Implementing a system that can retain distinct nomenclature across the enterprise yet link inventories through a common number identification.
5. Implementing a system that can create demand based on actual usage and easily share that information with corporate purchasing software.
6. Implementing RFID, a cutting-edge technology to enhance processes.
In most other areas of your business like the direct supply chain or purchasing, a system to handle the needs is your first step. When it comes to MRO, there has been so little focus on how to manage this inventory properly. From an enterprise level, the first step is often, "get the problem off of my hands" instead of "find the tools to allow me to better manage". Flexible systems are available that allow better management and you should commit to a long term plan to improve your MRO management across your entire enterprise. Supply chain, contracts, integrators, suppliers, safety stock, consignment programs, lot numbers, expirations, re-grinds...It is about time you face the problem and not just find an easy way out.

“We're probably 75 percent faster than we used to be. It's a huge jump,” Sgt. Bob Goddard, Whiteman AFB
Yes that really is the question. Everyone is familiar with the question that was proposed by William Shakespeare's Hamlet in the 1600's: "To be, or not to be". This is a very famous literary quotation and some would argue that it may be the most famous. You see if you read further into the soliloquy from which this quote is extracted, you see the question is much greater. In Hamlet Shakespeare was really referring to life itself. Should I continue to live this way or should I end it by taking my life? This was the question proposed by the fictional character.

The line directly following this famous questions is:

"Whether 'tis nobler in the mind to suffer
The slings and arrows of outrageous fortune,
Or to take arms against a sea of troubles,
And by opposing end them?"

What if you take that same question and apply it to a single aspect of life or business? You can replace the word "be" with things like "control" or "manage" and all of a sudden it becomes much less depressive and much more encouraging. In fact if we were to re-write the first couple of lines and tailor them to current business challenges, the answer becomes obvious.

What if it read something like:

To control, or not control: that is the question
Whether 'tis nobler in the workplace to suffer
The slings and arrows of outrageous mis-management,
Or to take arms against a sea of poor workplace habits,
And by opposing end them?"

You see the question simply becomes: should I stand up and change something that my company does poorly or should I just live with it the way it has always been? Should I recognize an area for improvement or should I simply ignore it and go about my ways? Should I continue to waste money on inefficient means of doing things or stand up and make a change? Well, of course, the choice is always yours but so is the fruit it bears.

OK...OK...if choices were really that simple we'd all live perfect little lives and be incredibly efficient at everything we do. That is not the case. Many of us are very efficient at certain things and not so efficient at others. As a whole, I have seen companies that are very good at managing their direct supply chains yet they fall short when it comes to the indirect side of things. I have seen companies that are very good at making product but not very good at forecasting demand. The bottom line is that there is always room for improvement.

The first step to improving anything is establishing the right process and controlling the process so that you achieve the desired result. This article is really discussing the control of indirect material, MRO supplies, PPE inventory, tools, haz-mat, and other supplies. The question that is proposed in the title of the article is really aimed towards managing this type of inventory. So the questions should really be, "To control indirect material better and manage the supply chain or not to control and waste time and money?" I bet you can tell from the tone of that last question what my answer would be. You're darn right you control it. So little focus is put on this inventory and yet so many dollars can be saved. In fact a recent corporate user...
of our management system reported a 10 million dollar savings in the first year alone. That was direct inventory savings alone. It didn’t even take into consideration things like less purchase orders cut, less time searching for tools, less stock outs, reduced travel time, and on and on.

To control, or not to control: that is the question. You know what my answer is. Take control and love it.