

NEW AUTOMATED EQUIPMENT

Sorry to- Burst the Bubble!

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Congratulations! You've just purchased a new, state of the art machine to add technology and automation to your factory processes! Concerns about safety, how to improve your efficiency and have a real impact on that bottom line are now in the past! Your staff will be happier, work will be easier and your end customers will be thrilled with the quality product you are providing!

Now- time to burst the bubble!
Yes- time for a reality check!

If your exposure to automated equipment is limited, you may find, like many that have trod the path before you that life with a new machine creates different business processes and challenges- specifically in regards to **MAINTENANCE!** I'm afraid to say that the days of a hammer, some duct tape and a bit of grease sorting out your machinery are well and truly gone!

But... All hope is not lost; with some sound advice on what to expect- you can blow that bubble up bigger than before!

Advice #1: All machines are not created equal!



As you increase a machine's level of automation, you are inherently increasing its level of complexity. Modern automated equipment have various elements that all have to interact and rely upon one another. Safety systems interact with the firmware that in turn rely upon sensors and user input from the user

interface system. I could continue; but let's keep it simple- The needs and expectations of automated systems are far more complicated than a purely mechanical machine. 100 year old mechanical machines still function today without much love and attention. Your automated machine... It will NEVER fall into such a category. It is a very different type of machine, designed to do a very different type of work, and it does that work in a very different kind of way. Understanding this is imperative!

Advice #2 Get a degree in Mechanical Engineering!

I'm kidding! However, you do need to understand that there are countless elements that could bring your new machine to a standstill. The skill sets needed to maintain and repair the machine will be very different from that of the machinery you are replacing. Your new machine will require a higher skillset to help you diagnose, repair and maintain your equipment properly.

Advice #2.5 Local (and qualified) is best!

So where do you source this new skillset? It's best to have someone local that has experience with your new equipment. Someone who is familiar with automated technology, even if it isn't your specific machine, that can pop in and work with you to resolve issues will be invaluable. Your first resource will be your machinery supplier- the skillsets of the support technicians should be Engineering level. Mechatronic (Robotic) Engineers are best as one person can address software, mechanical and electrical issues, the jack of all trades for automated equipment! However you should also have the option of sourcing support from third party technicians. Support forms a major revenue stream for automated equipment suppliers. Many are reluctant or completely refuse to provide meaningful help unless they are doing the site work. Ensure that your supplier does not fit into this category and will work with third party contractors. They're interest should be getting your machine up and running- no matter who is doing the job!

Advice #3 Get out the Bible!

At times, you may feel the need to pray to the machinery Gods. However, if you are supplied with good reference material, help documentation, electrical drawings, maintenance procedures and checklists- in other words, your 'Machine Bible' then the Gods will answer you! Today, your bible should be on-line, connected to your machinery software, customised to the exact configuration of your machine, updated regularly, accessible for all and easy to understand with diagrams and step-by-step instructions written in plain English. The less you are provided by your supplier, the more reliant upon them you will be!



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Advice #4 Only as strong as your weakest link!

When your new machine is installed, there will be teething issues. Your machine is made up of many different parts and elements made from a range of global suppliers. Those parts in turn are made up of many other sub parts, that again are made by other suppliers from all over the world and on it goes. For example, the small little capacitor (a device used to store an electric charge) suffered the misfortune of being dropped when it was in the box. The shock of the drop weakened its internal structure. The capacitor, now sitting inside your servo drive decides that enough is enough and life is not worth living. The servo drive, follows suit. The next thing you know, your whole machine has thrown the towel in! All because of a 10 cent capacitor. Depressing? Yes! The good news- If it's going to go wrong it will generally happen in the early life of the machine. Teething in phase, bad luck, machinery Gods against you- call it what you want but don't be discouraged! These issues are not necessarily something of concern. They happen with all machines that involve a high level of complexity. Your warranty period is there for such a reason, to allow for these things to happen and be rectified without additional expense to you.

Advice #4.5 Source it and source it quick!

Talk to your supplier and have a good understanding about what parts they stock and in what locations. What percentage of parts used in your machine are stocked by your direct supplier? How quickly can they arrive at your site? Can you source parts at your local Jaycar? Again, some suppliers will insist you buy through them, when you could just pop into your local electrical shop. Secondly, have a backup plan. You're 10 cent capacitor coming from Europe may not arrive tomorrow. Consider how you will continue to manufacture without your machine and prioritise jobs and customers.

Advice #5 Clean is the new black!

Preventative maintenance on your new equipment will be far more critical than was likely the case with your previous machines. Tolerances will be tighter, the work more strenuous over a given period, and, don't forget those little sub systems and 10 cent capacitors. You need to be prepared to follow your suppliers recommended preventative maintenance procedures and schedules to the letter (these should be on-line with the ability to download). Your operators and supervisors might not be used to the new demands required in this regard. It will be imperative that management keep a close eye on what is and is not being done, especially in the early days while habits are being created. Talk to your supplier and get their feedback about how your team are maintaining the equipment. Insist on a written report after every service, and then- read it! Often, just keeping the machine clean will play a far bigger role in long term reliability than is usually expected.



Advice #6 Prevention is better than cure.

What happens if you fall behind on the preventative maintenance? The sky will darken, the heavens will open... No, actually, nothing, at first! In most cases your machine will tick along just nicely. However, over time the general state of the machine will start to deteriorate resulting in reliability consistently reducing. Left for prolonged periods, a lack of effective preventative maintenance will always cost you far more in repair costs and unscheduled down time. Perhaps a bigger cost, the attitude of your operators! Yes, they will turn against the machine and possibly against you for making them use it! Now, the machine Gods are not smiling on you, your prayers and Bible will be of no use. As soon as you recognise that your machine hasn't been looked after properly, you can't simply flick a switch, throw some money at it and expect to go back in time instantly. You will need to invest in an (often costly) extended full service (probably more than one) from the supplier. You will then need to implement a heavy preventative maintenance schedule that will need to continue for an extended period of time. Then, gradually, reliability will return, operators will be on your side and the machine Gods will smile. 'Prevention is better than cure'. Cliche? Yes- but oh, so relevant!

My last piece of advice, if you're looking at going down the automation path, ensure it is a good experience. There is no need for the bubble to burst when you have the knowledge, are prepared and chose a supplier who will put you and your machine first. At Vekta, the customer is our number one priority. Automated machinery is our passion, our focus. Seeing our customers get the most out of their investment is **PRECISELY** why we do what we do and... we do it the best!

