

Automating 'end of line' to boost productivity and profits



Barring high speed production lines, most lines in Asia are not fully automated today. Most investments go into capacity expansion or automation contributes towards primary packing. End of line automation with exception of case sealing is usually left for later or ignored completely. But that's until now! Automating end of line packing is a trend that is snowballing its way into the gateways of many factories across Asia. It's the final piece of the puzzle to fulfilling a factories ambition of automating their packaging line. End of Line, also known as tertiary packaging, is exactly what it means – end of a packaging line.

Essentially, end of line packaging covers everything after the secondary packing systems e.g. labellers (for bottles) or flow wrapper and cartoner (for food or non-food items). Case erectors, Case or Crate packer, Shrink bundlers, Case palletizers and Case sealers are usually the equipment referred to as End of line machines.

With low labour costs, manual packing has been the most logical option for end of line packaging. In many ways, end of line packaging in Asian factories today is where their European and American counterparts were in the 80s and early 90s. A series of factors such as increasing labour costs, stringent work environment & safety laws and reduced legal working hours motivated managements to consider and push for end of line automation. Faster production line speeds and need to have better line efficiencies made it imperative for companies in the west to make end of line automation as well an important part of the whole investment.

The many factors that shifted the West to end of line automation feature in the story of Asia today. Rising labour cost, higher employee turnover, faster line speeds along with other macro and micro issues are pushing management to automate and upgrade existing production lines and consider new lines with full automation.

So how do you get started on end of line automation?

Once you have aligned what SKUs your markets need, you are ready to funnel down the end of line automation options. However, do note that with end of line automation, you get the best results when dealing with as few parameters as possible. Do not misunderstand the capabilities of these machines – with advanced technologies available today, you can practically automate anything. However, with greater flexibility comes greater costs and greater complexities in the solution.

End of line automation is an investment that can make or break your entire manufacturing line. One needs to look for several characteristics in the design of the overall system. Firstly, the solution needs to be simple. This could be through the principle concept and design of the solution. The case packer or shrink bundler must also be future proof with easy changeover. This ensures that you are capable of running future products and collations that your market demands. It also enables your operators to change between your range of products without having to fiddle too much with the parameters of the machine. These machines, like any other, need regular maintenance and check-ups to prolong the life of the equipment. It is imperative that there be local after sales support for these machines in order to ensure the machine can be brought back to speed in case of a break down.

Packaging materials play an important role in the functioning of the machines. To perform at high efficiency, machines need to use good quality and consistent packaging materials such as corrugated case blanks, self adhesive tapes, hot melt glue. A good end of line packaging professional should be able to guide on the optimum packaging material needed and construction of the packaging consumable such as cases.

As with everything, eventually its people who would be the difference in a successful or not so successful end of line project. Right from the packaging professional you speak with to the project manager who works on the project to the operator who is tasked with operating the machinery play crucial role in success of an automation project.

The end of line packaging professionals you work with must have thorough understanding of not only the end of line equipment but also a good understanding of the other upstream and peripheral equipment. This would help to ensure that your end of line equipment would be optimally sized, correctly laid out and seamlessly integrated into the existing or new lines. Many companies make the mistake of entrusting end of line automation to companies unfamiliar with the task only to witness disastrous results, even though these companies may be very good in other equipment on the line. The packaging professional you work with must have demonstrated ability and willingness to develop correct layouts with right amount of accumulation and positive transfers between equipment. A good layout and good quality conveyors (read October 2011 issue) play a crucial role in delivering high efficiency through the production line. This is often an overlooked area but must be given due attention to fully realize benefits of end of line automation.

If done correctly, automation is safe, organized, reliable and eco-friendly. Factories can have a much safer working environment with reduced dependence on manpower to deliver output. Many multinationals also strive for automation in order to have an organized and simpler systems and processes within their

operation framework which would be chaotic otherwise. Lastly, automation can allow you to reduce your carbon footprint with new innovations and packing styles.

Financial impact and ROI

Coming to the financial aspects of end of line automation, it's no longer a big challenge in Asia to justify cost of automation. Most commonly, companies looked at direct labour cost savings as a major metric to calculate Return of Investment (ROI). Increasingly, enlightened companies are starting to consider savings in costs such as opportunity lost (due to absenteeism), safety and ergonomics related cost, reduction in waste, reduction in carbon footprint and savings in time and expenses derived from the management of fewer people. All these factors can lead to an accurate ROI calculation. On the supply side, its now possible to find companies in Asia who manufacture reliable end of line automation solutions under license of their partners from Europe and US. So you can get European standard machine at Asian costs helping in faster ROI.

To summarize, some see end of line automation as a way to reduce labour, while others see it as a way to scale production. Either way end of line automation is a trend that is definitely catching up as companies realize its importance and make it integral part of their investment plans.

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