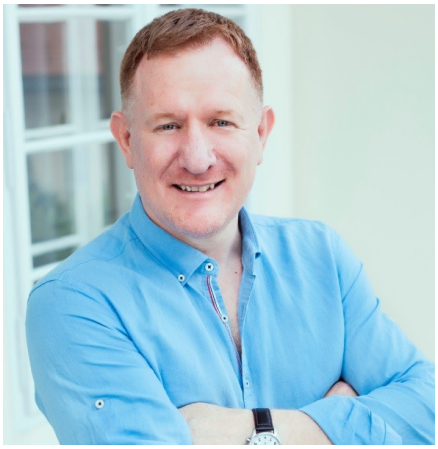
SELECTING PACKAGING LINE TECHNOLOGY FOR BETTER PRODUCTION FLEXIBILITY

Q&A with Gavin Millar,

Senior Director, Global Packaging and Warehouse Design, Molson Coors



When operating at full capacity, the newest canning lines available to beer brewers are capable of producing over 2,000 cans per minute or about 2.5 to 3 million cans a day. Warehouses can also be fit with cloud-based systems, which help ensure product is stored and accessible for distribution with extreme ease. Packagers know that having fast bottling equipment and more automated warehouses are all part of what drives down operating costs while increasing efficiency. However, beer markets are much more complex than 5-10 years ago when more volume was the norm.

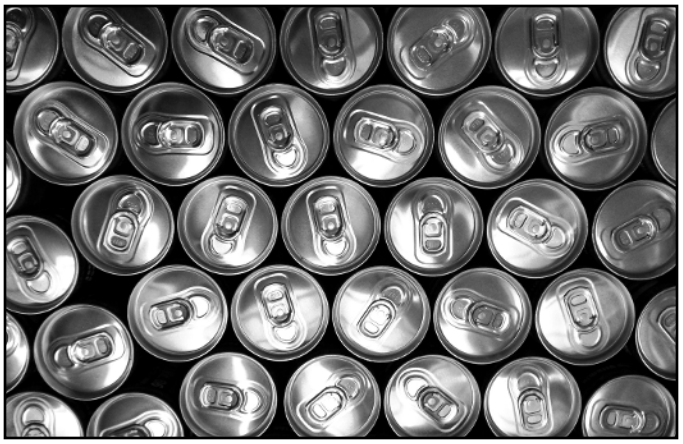
Today's beer brewers are dealing with 10x the amount of product SKUs, less volume, and more diversity of products, not to mention a crowded marketplace with both large and craft brewers competing for attention on the shelf. The greater selection and small batches of craft beer appeal to today's consumer and are challenging traditional ways of thinking about packaging lines. The need to improve flexibility and accuracy is key.

Gavin Millar, Senior Director, Global Packaging and Warehouse Design at Molson Coors, is constantly reviewing production line costs, suppliers, and performance for areas of improvement. This role fits into a much larger World Class Supply Chain continuous improvement program at Molson Coors, in which one of the key pillars is the adoption of best-available technology and measurement and tracking of energy use.

We spoke with Gavin Millar to understand how to select best-available technology and achieve packaging production and warehouse efficiency.

OVERVIEW

- How have changing consumer behaviors shaped Molson Coors' packaging and warehouse strategy?
- What are the best ways to equip packaging and warehouse operations for the future?
- How is Molson Coors re-organizing to become more agile?
- What are the goals of Molson Coors' World Class Supply Chain program? Where does packaging fit in with this?
- What is an example of innovating at scale to meet customer needs?
- What have been some of the most beneficial new packaging or warehouse technologies to your operations?



How have changing consumer behaviors shaped Molson Coors' packaging and warehouse strategy?

Consumer behavior is the thing that drives the technology we deploy in our production facilities to hold share and to try to gain share.

For example, in Hungary in the early 2000s, there was no beer in PET bottles. One of the importers started to bring in cheap beer in PET from Germany. InterBrew, at the time, responded very quickly by purchasing their own PET line and installing it in Hungary. They certainly did steal a march on the competition and gained a few points in share. PET started to become an acceptable pack. Much of the younger generation had grown up with water and sodas in PET, so a beer in PET was not as foreign a concept to them as it was to the older generation. That trend spread across the region - suddenly Romania, Serbia, Ukraine, Russia, Poland, and even Czechia started to introduce beer in PET. This was driven by consumers and early adopters of the pack trying to gain market share. PET has since had a huge decline in the Hungarian market, where it is still holding on in the others. When I left Romania after installing a number of lines, including two PET lines, the PET market share in beer was estimated at 56%. This figure was echoed in Ukraine and Russia. The other markets in Central Europe never quite got to those levels.

In North America today, can share is growing, at the expense of bottle share. This is driven largely by convenience and, we believe, the fact that many craft brewers are also getting into cans. We have moved from less than 100 SKUs in the late 70s to more than 600 today and we are considering over 800 in our design. This of course affects pack line and warehouse designs and impacts heavily on our run and operation strategy.

What are the greatest changes you've seen to packaging operations in the last decade?

There has been a proliferation of choices, driven to some extent by craft, youth (less loyalty to brands), and increased imports. This is amplified by the big brewers trying to get their share of throat. There is very little brand loyalty to speak of these days, certainly amongst younger people, who are far more experimental than their parents or grandparents.

Brewers generally have a choice between cheap volume or premium, and some manufacturers have done a very good job of staying in the premium segment. For the rest, it's all been about making a good quality beer as cheap as possible. The mainstream, midpoint beers have been heavily punished and, despite many brewers calling their product premium or premium lights, the discounting practices demonstrate their true value. You only have to look at how big brands have been hammered over the last 6-7 years to see this.

The proliferation of choice has driven quick-changeover technologies, which the suppliers are really getting behind, but for many of the larger companies, their huge investments in big volume, high-speed lines throughout the years meant that they had to look at smart ways to bring in flexibility. Most have done a pretty good job with the existing infrastructure and one or two small, smart investments. If you speak to some of the suppliers, they will tell you that medium to low-speed equipment with quick changeover technology is where their growth is. There are still a few high speed lines being sold but not like 10-15 years ago. Machines are also becoming complex as servo-technology has really taken off. In addition, the data we can collect off equipment is really interesting and there are a lot of people still working on what to do with all of it.

Technologies such as augmented reality and additive manufacturing are still relatively small in beverage but are starting to gain traction and will be the future. Shorter runs, more changeovers, and to a large extent, short life-cycle products are what we are facing.

What are the best ways to equip packaging and warehouse operations for the future?

A greenfield brewery would look pretty different today vs. one that was built in the 1970s. The older breweries were built for low SKU-count, high volume, mass production. Even the warehouse were relatively small since most were what we call "high-flow warehouses," meaning a warehouse where product stays no longer than 2-3 days.

Today, the proliferation of SKUs has driven requirements for far more warehousing in existing breweries as short run, high changeover is not an affordable way for these breweries to run. Instead, we are looking for automated warehousing with high SKU-facings and automated truck loading. Warehouses must be capable of holding more volumes (days of inventory) of what we call C&D SKUs, so as not to enforce too many changeovers. At Molson Coors, we are looking to ensure the A&B SKUs are moved quickly, as they are the volume SKUs. Packaging lines are built to be flexible.

We have recently been working on a line which we call "modular-scalable," which means having a high-speed line 'partnered with' a low-speed flex line and utilizing the same operators for both. One line will simply run big volumes and the other is focused on flex and changeovers for short runs. In addition to this, we look at the pipeline of new SKUs that could be coming at us and try to ensure we don't limit our ability to respond to these changes. We are also considering small, 'throw-away' type lines which would have an eight to ten year lifespan, instead of installing for 30-35 years, as we have done in the past.

How is Molson Coors reorganizing to become more agile?

As part of the World Class Supply Chain (WCSC) program that our business is going through, we are giving people the skills to become more adept to changes and to be more agile. This obviously involves a very heavy learning and development investment and allows us to have operators doing more than pure operational tasks. For instance, they are now doing first and second-level maintenance activities, which we often refer to as Clean, Inspect, Lube. They also need to understand product quality and quality assurance.

For the most part, we believe in people and process first - you would be surprised at how agile you can be with little investment when you get the people and process figured out. Of course, we are also investing heavily in technology to help us shorten feedback cycles and improve maintenance and uptime of equipment.

What are the goals of Molson Coors' World Class Supply Chain continuous improvement program?

The goals of the Molson Coors WCSC program are very ambitious and, thankfully, we have a fantastic team of people involved. They are driven, focused, and determined to root this program in the Molson Coors DNA. Primarily, the program will drive very different behaviors in the operation with the main objective being to eliminate waste. 'Waste' encompasses line inefficiencies, losses, slow changeovers, rework, or anything that can be improved upon operationally to deliver a lean operation with world class performance, that is agile, and runs with the consistency of a metronome. It is *the one way, the only way* we will operate our business. Maintenance or asset care programs play a huge part in this.

Where do packaging and production line fit within this program?

Packaging lines are fairly complex by nature. In many instances, they are customized with equipment from different suppliers all integrated into one line. Of course, newer lines are often built with equipment from one supplier but these are fairly rare in North America, although they are becoming more common. One could liken this to going to Toyota and asking for a car with a Chevy engine, a Jeep gearbox, and electronics from BMW, and expecting it all to work perfectly. It is how things were done in the past and we have to make these 'little Frankensteins' all work and operate faultlessly.

WCSC helps us to re-establish center-lines, focus on improving performance and eliminating faults. It brings the lines to design operating standards and keeps them there. It gives us the tools to do predictive maintenance. It provides us with *the one way, the only way* that we will operate our lines. It gives us leverage on our material suppliers as we are able to show our equipment is centered and the material may not be performing as required.

What is a recent example of innovating at scale to meet new consumer needs?

A fairly recent innovation at scale, which has met customer needs very well, is the aluminum pint with a wide mouth. This pack is fairly unique, although competitors now have their own version, but they don't have the wide mouth resealable container.

In general, I don't believe that the beer industry has been very good at innovation. For the most part, we all simply deploy innovations that other organizations have developed. Think about it. Glass returnable or non-returnable bottles have been around forever. Likewise with multipacks and cans. Simply because we add new embossing to bottles or different labels, or thermochromatic inks, it doesn't really mean we are being innovative. Sleek or slim cans, no innovation. They are simply different offerings. In carbonated CPG, there is very little innovation.

We do sometimes innovate in ways that are unseen by the customer. For instance, we moved to a 202 CDL end, which is effectively a 200 end on a 202 can. Huge savings in aluminum, invisible to the customer.

What have been some of the most beneficial new packaging or warehouse technologies to your operations?

We have installed automated warehousing with AGVs, which has really worked well and is operating well in two of our big plants. This is something we are working on actively to roll out to other locations.

We have installed a handful of packaging lines over the last four years that are basically from one OEM. This has driven performance and we have two of those lines with machine efficiencies above 90% and the other two not far behind. They are much smaller from a footprint point of view than the more traditional lines we have installed in the past. This was driven by me and informed by my experience with the suppliers and the compact solutions I have installed in Europe and Latin America in the past.

I have also introduced warmer or close to ambient filling temperatures, which delivers huge energy savings and more compact lines.

We have close-coupled equipment - I had a lot of pushback from operations on this, but we did it anyway. We had lots of dialogue and I had to show many examples of where I had done this in the past, but we got there. Now the business in North America is starting to pull on these ideas, so I have won them over

Generally, we have removed over 2,000 feet of conveyors in the layouts and we are delivering better performance. I am a firm believer in removing the buffers that hide problems and having just enough buffer to ensure good performance. This is part of our new *one way, the only way* of doing things.

I have also been pushing to work with OEM standards. This helps to deliver a reliable, high performance, replicable standard.

What advice would you caution brewers with when investing in new technology?

I find the North American brewers tend to rely on a lot of outside consultants for their subject matter expertise when it comes to line design. The people I have met in these 'consultant' roles are very often the people that designed the older lines and are unaware of the shift in consumer dynamics and the newer technologies available. They want to do what they have always done - cookie-cutter, low-flex lines.

I don't use external consultants to help me. We do occasionally use them when we may not have enough of our own project managers, but all designs require my approval. I stay close to the OEMs and ensure that we are levering their know-how and new technologies where we should be. As an example, an aluminum pint line installed two years before I moved to North America cost just over $25 million. I installed three (with my project teams, of course) and oversaw the design. We came in at under $18 million on each of them and have better performance despite the teams being less familiar with the equipment. It had nothing to do with the individual pieces of equipment installed on the older line and everything to do with using old standards for accumulation and overall design.

Many of these outside consultants also have their own preference for equipment suppliers and you quickly find them using machines in their design that just don't cut it against newer performance standards.

So, in a nutshell, my advice is to ensure that you own the subject matter expertise and not outsource that.

Learn more about the latest canning, bottling, and warehouse technology to improve your packaging operation at the American Packaging Summit, held in Chicago on June 6-7, 2018, where Gavin Millar will be presenting on "Adopting Best-Available Technology and Processes for Production, Packaging and Warehouse Efficiency."

View the Program