



The Association for Packaging
and Processing Technologies



2023 PURCHASING PLANS AND PRIORITIES





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and Processing Technologies

2023 Purchasing Plans and Priorities

PMMI The Association for Packaging and Processing Technologies

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Introduction

This report presents a summary of findings from our year-end 2022 survey with 129 packaging and processing machinery users. Most respondents were consumer packaged goods manufacturers (CPG's) and packaging companies of various sizes, which form a representative sample of the demand industries. In addition to the survey, we interviewed a select sample of companies to discuss the overall findings and some of their own responses.

The survey was conducted between November and December 2022, and the interviews took place during February and March 2023.

The survey and interviews were designed to identify upcoming investment plans and projects, key issues driving or inhibiting planned machinery investments,

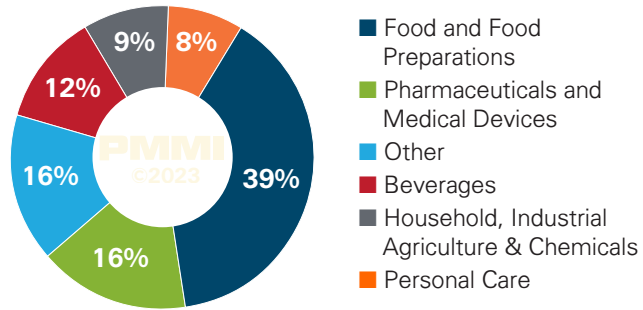
operational priorities, top supplier selection attributes and the primary reasons why some of the companies have selected packaging or processing suppliers outside of North America for their lines.

Survey responses were also used to update PMMI's Purchasing Index, which measures short-term CPG investment, scheduled projects and planned SKU additions.

Finally, respondents were asked to provide recommendations for packaging and processing machinery manufacturers. A summary of these responses is included in the "User Recommendations for PMMI Members" section of this report.

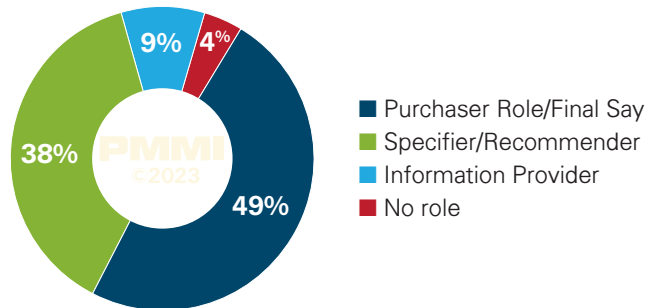


Survey Respondents by Industry

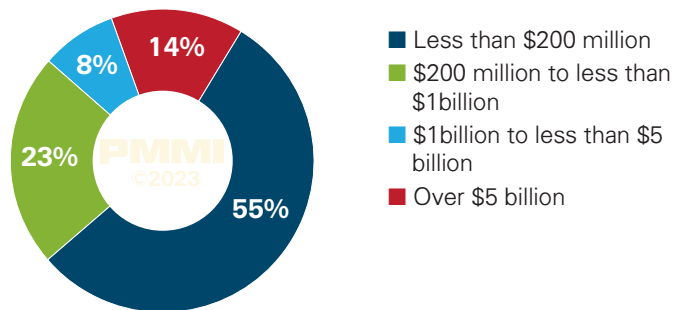


* Companies in the household, agricultural and chemical sectors were grouped within the “others” category for analysis.

Survey Respondents by Industry



Survey Respondents by Company Revenue





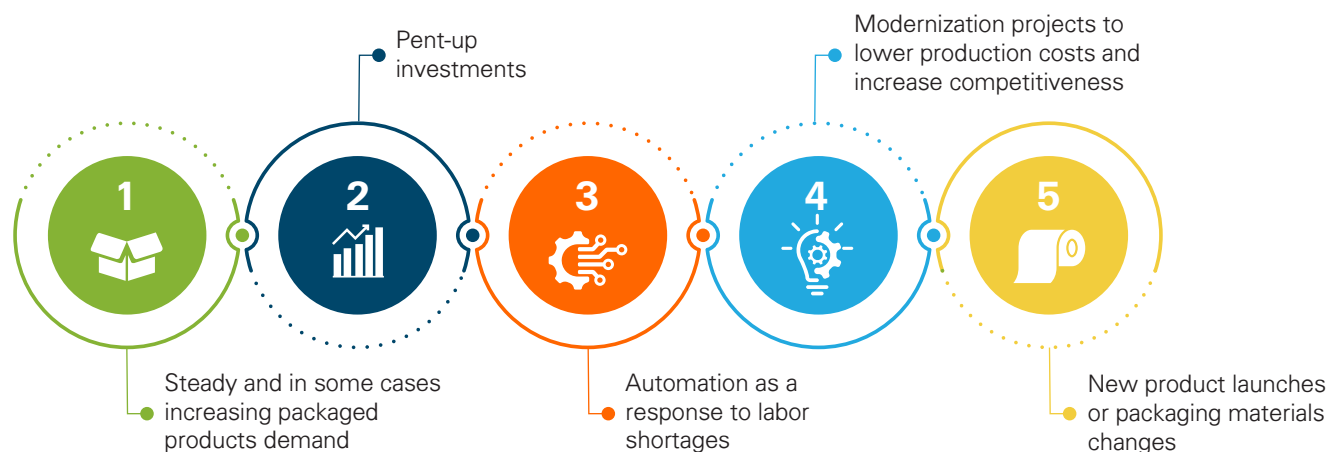
Executive Summary



In this report, we updated PMMI's Purchasing Index, which measures expected investments, scheduled projects and SKU additions among packaging and processing machinery users. The 2023 index indicates that despite trouble brewing on the economic and geopolitical horizon, packaging and processing machinery users are optimistic and plan to increase investments, move forward with scheduled projects and add SKUs to their offerings.

While the survey was conducted in late 2022 and some economic indicators have not improved, very few of the companies that participated in the February and March 2023 interviews indicated an intention to withhold investments. Only one of those companies reported plans to place projects on hold to await clearer skies in the economic front.

Investment optimism related to packaging machinery investments is in response to a variety of factors that fall into five main categories:



Investment optimism is particularly strong among food and food ingredient manufacturers, who have benefited from changing consumer habits that originated with the COVID-19 pandemic and have since continued, such as a propensity to eat more at home. With the economy experiencing high inflation, companies are seeing packaged product demand increases as restaurants have become more expensive and consumers are opting to cook at home to reduce spending. Other changing consumer habits include greater health and wellness concerns, which are boosting demand for high-quality, healthy products in convenient packaging. This dynamic is also fueling market innovation and new product launches.

Machinery demand has been strong for two consecutive years, and with supply chain disruptions demand surges, and labor shortages, delivery times have extended to a point where some packaging machinery manufacturers have significant backorders for many types of machinery. Some end-users have delayed projects due to a lack of supply availability, generating further pent-up demand.

Labor shortages and the difficulty of finding skilled workers are also common concerns among survey respondents. Some of these companies are responding to the labor shortages with further process automation when possible.

Reducing production costs ranked as the top operational priority and is also a significant driver for scheduled projects. New machinery, besides being more efficient and precise, is seen as a key to improve operational costs.

While sustainability didn't rank among the top operational priorities, it was a common topic of discussion. End users consider the ability to run current and new packaging materials to be a prime consideration when purchasing new machinery.

Companies of all sectors reported an increase in the number of scheduled projects vs. the previous year, with the greatest increase found among food companies. 60% of respondents indicated that their investments in packaging and processing machinery will increase in 2023, with 64% reporting an increase in scheduled projects and 62% indicating plans to add SKUs.

Survey participants presented a series of recommendations to PMMI members that we could group in nine related groups: to more support to address operational cost reduction, faster parts delivery, knowledge and recommendation of packaging materials, troubleshooting consistency, more intuitive HMI's and simpler manuals, integration and reliability, simpler retooling, better service delivery and operator training expectations. Brief explanations and comments are included in the final chapter.



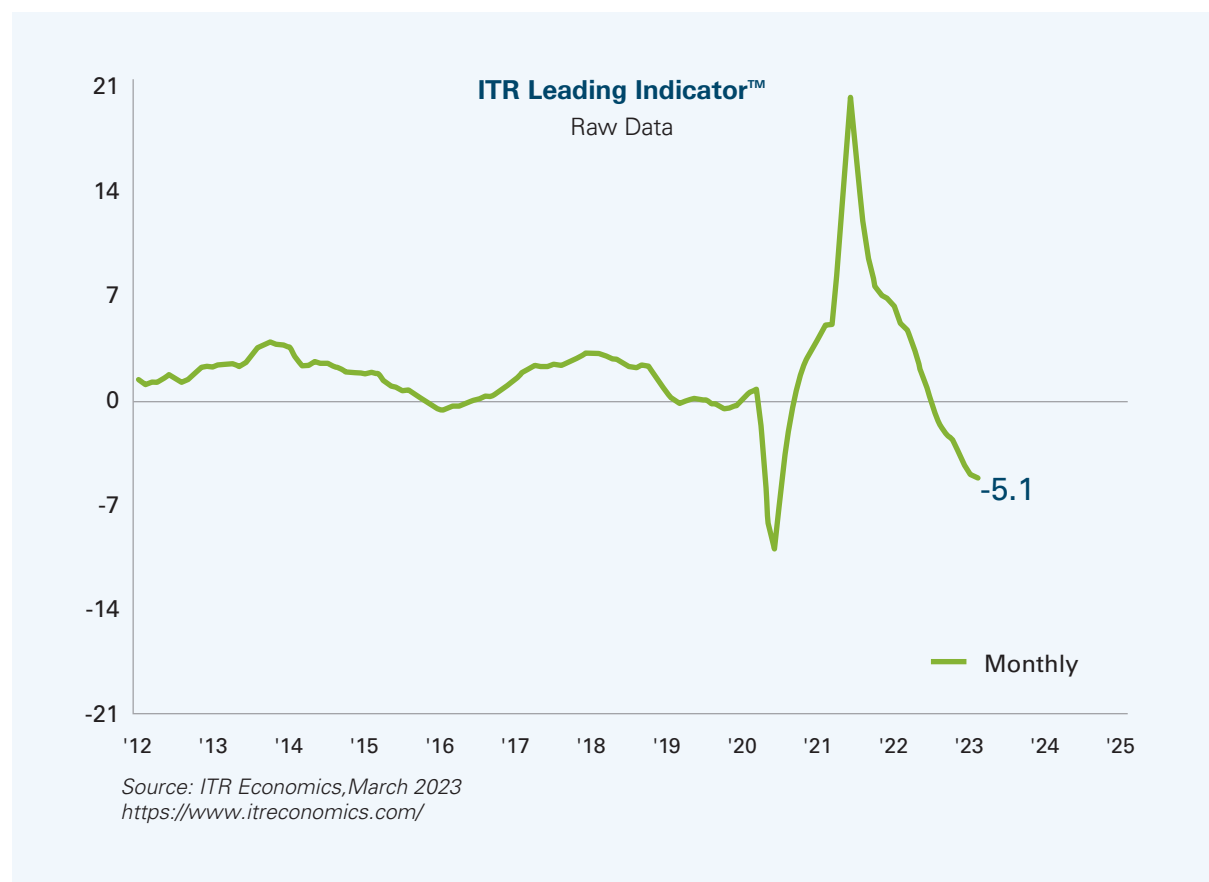
Snapshot Indicators



ITR Leading Indicator

The ITR Leading Indicator™, a proprietary index of ITR Economics, is comprised of consumer, industrial, financial and global components. Changes in the ITR Leading Indicator™ suggest a possible shift in the U.S. industrial economy approximately three quarters in advance.

The ITR Leading Indicator has posted a consistent decline since mid-2022, signaling that the U.S. industrial sector will continue to trend on the back side of the business cycle into at least late 2023.



The declining ITR Leading Indicator™ reflects many of the worrisome factors that we discussed with machinery users, including inflation, central banks remaining hawkish, recessionary risks and more recently, the risk of a banking crisis that could generate a domino effect. Despite these concerning developments, most packaging and processing machinery users remain optimistic about consumption and are forecasting demand growth for their products, with the great majority intending to move forward with investments, maintain projects on schedule and add new SKUs to their offering.

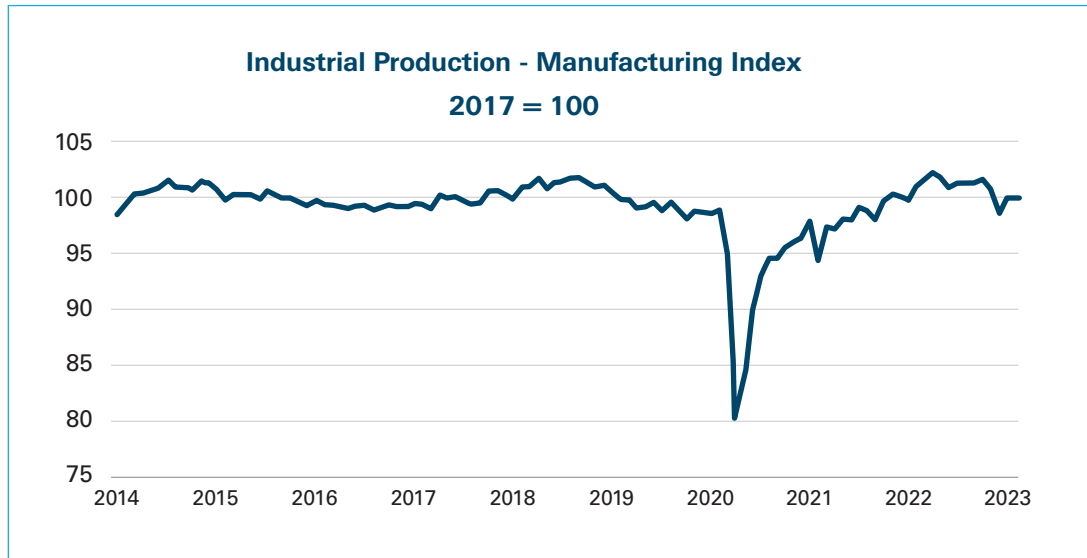
While inflation has an impact on purchasing power and disposable income, CPGs from the food and beverage sectors are anticipating either a marginal impact or no impact at all. Within those sectors, packaged products demand is steadily rising, as consumers increasingly seek convenience.

Users from the personal care, pharmaceutical and “other” sectors expect that inflationary pressure will have a stronger impact on demand. However, many of the projects that companies in these industries stalled during the COVID-19 pandemic are now on schedule to move forward to address pent-up demand.

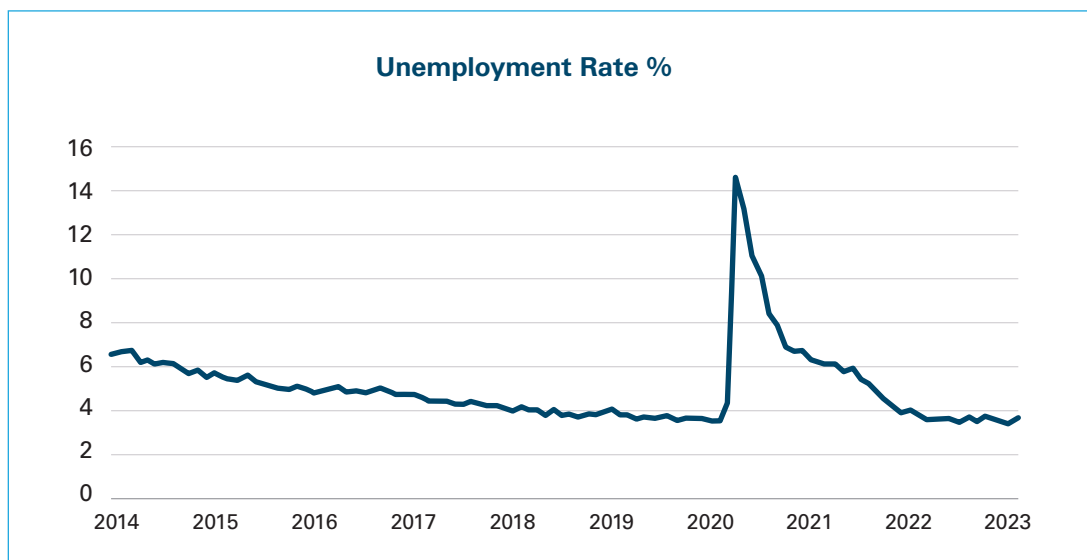


Industrial Production & Labor

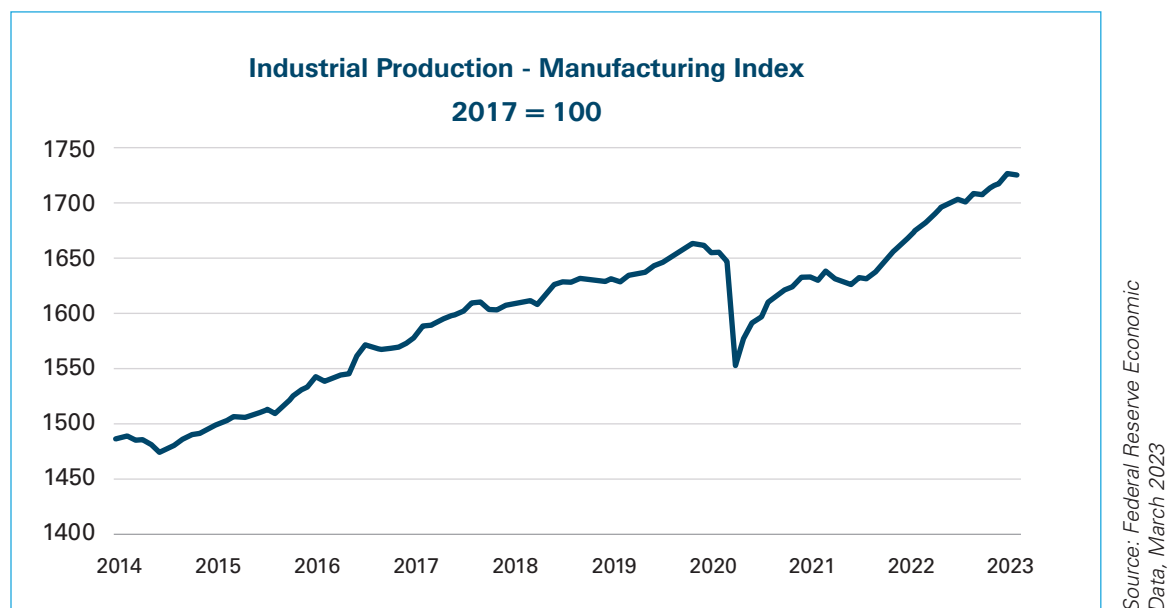
A post-pandemic related demand surge for consumer and durable goods helped fuel U.S. manufacturing output. Industrial production recovered its pre-pandemic levels in early 2022, posting a historical high in April. Throughout the second half of the year, the indicator declined, suggesting a possible economic slowdown. However, in the first two months of 2023, industrial production posted moderate growth.



Labor shortages and the difficulty of recruiting skilled personnel were among the top concerns that packaging and processing companies expressed. Fewer workers are interested in full time, in-person manufacturing jobs while an increasing number of companies are shifting back to expanding domestic manufacturing and sourcing in the U.S. due to supply chain disruptions and international tensions. In January 2023, the unemployment indicator posted its lowest level in decades.



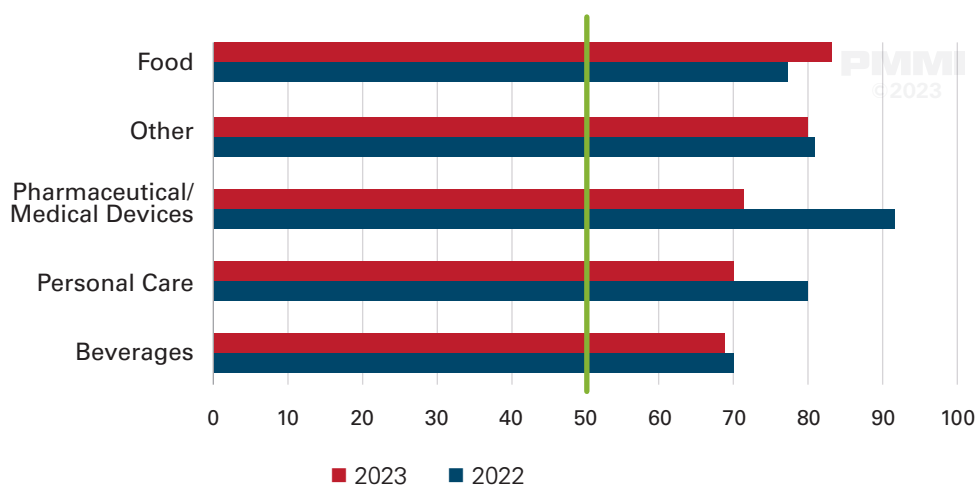
Manufacturing has generated 1.7 million jobs since the COVID-19 pandemic, not only recovering but significantly increasing its contribution to the labor pool. Labor shortages in industries such as food and beverage manufacturing are driving further investments in automation, robotics and technologies, contributing to further packaging and processing machinery projects.



Scheduled Projects

The data on initially scheduled projects indicates that CPGs are generally optimistic. CPGs from all sectors report that projects will increase in 2023. Companies in the food sector are the most optimistic, projecting even stronger expansion than one year ago.

Metrics from the beverage and "other" industries were very similar to 2022, while scheduled projects from the pharmaceutical/medical devices and personal care sectors suggest that growth will continue in 2023, albeit at slower pace than the year before.



An index of 50 represents the midpoint, indicating no change, whereas a reading above 50 indicates that investment is generally expanding. Below 50 indicates that it is generally contracting.

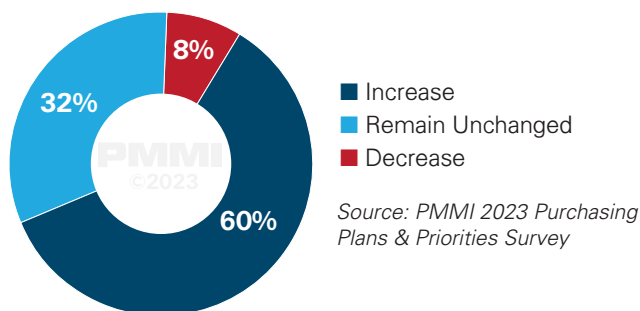




Purchasing Plans



Most CPGs are optimistic and moving forward with investment plans despite inflation and interest rate hikes.



On the economic front, inflation is the most worrisome factor for CPGs. Its impact on CPGs, however, is variable. Some respondents – especially in the food and beverage sectors – perceive inflation to be supporting packaged goods demand.

“

Restaurants and dining out have become so expensive that people are cooking and eating at home more, driving demand for our products.

With high inflation, additional SKUs are needed to offer smaller quantity packs for those clients wanting to pay the same prices.

Consumers are looking for high quality, differentiated products. They are becoming more demanding and willing to pay premiums, driving us to meet their demands with new SKUs and products that stand out and are more attractive to a particular target market.

”

Within the pharmaceutical and personal care sectors, optimism remains but scheduled projects are posting slower growth than in 2022 when companies made strong investments to cover for pent-up demand. Inflation is having a stronger impact on these sectors, and while many companies are moving forward with their scheduled projects, some are becoming more conservative.

“

Things have slowed down, but not much. Due to the labor shortage, we need to continue automating processes.

We have long-term growth plans and despite short-term economic ups and downs, we are sticking to our growth commitments.

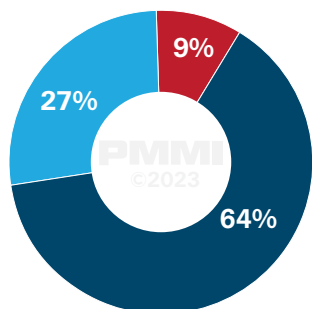
Cosmetics production costs have risen due to shortages in some raw materials and increased transportation costs. This is having a significant impact on consumer prices. Although it remains strong, less purchasing power affects demand of our products and we expect to see a slowdown.

”



Compared to 2022, over two thirds of the CPGs surveyed are planning more processing and packaging investment projects and only 9% expect to decrease projects.

Scheduled Projects for 2023

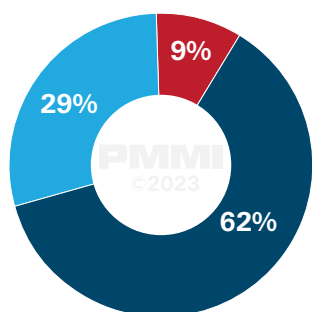


- Increase
- Unchanged
- Decrease

Source: PMMI 2023 Purchasing Plans & Priorities Survey

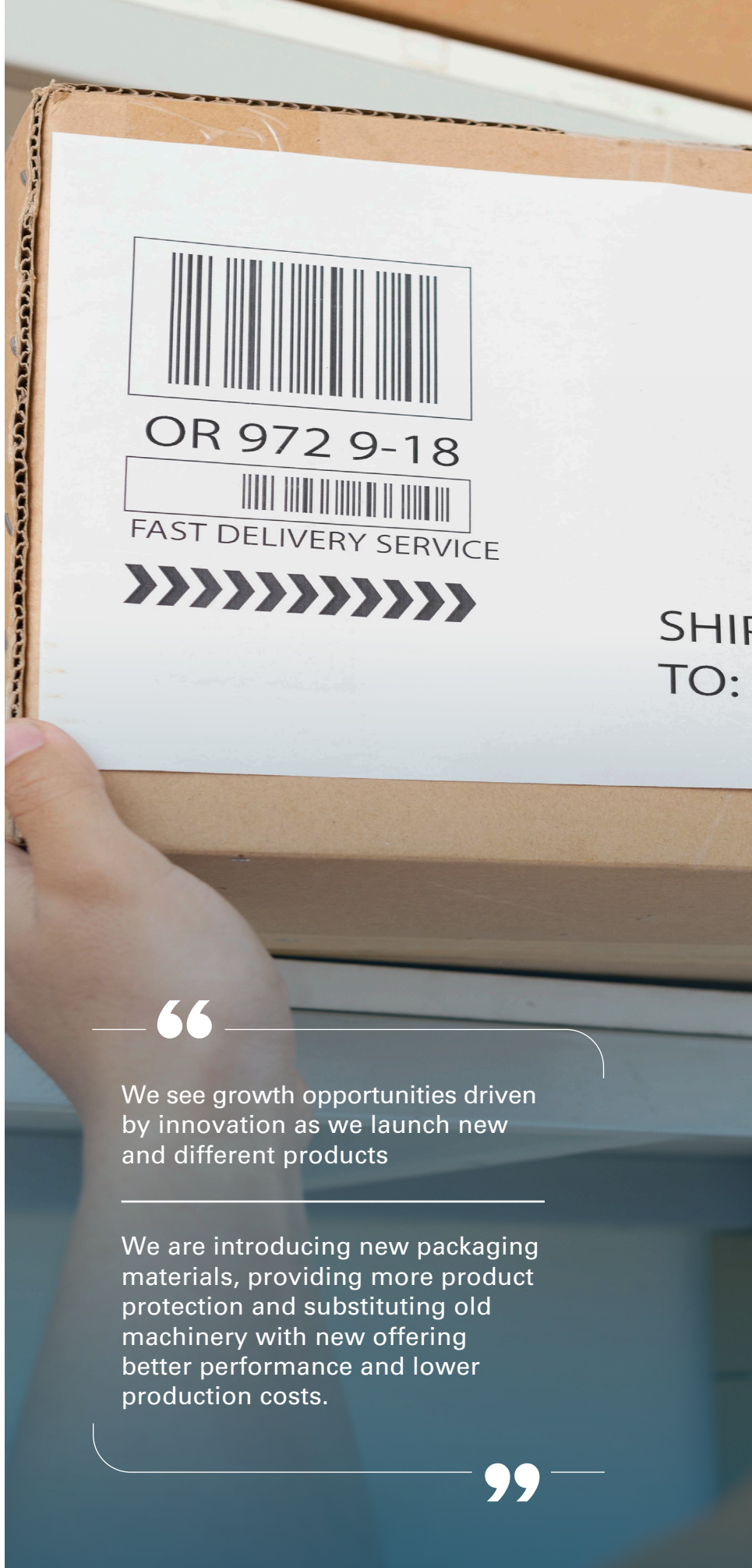
Investment project expectations are strongly aligned with plans for increasing the number of SKUs manufactured, as 62% of respondents expect to increase the number of SKUs and 8.5% foresee a reduction.

Number of SKUs Manufactured 2023 vs 2022



- Increase
- Unchanged
- Decrease

Source: PMMI 2023 Purchasing Plans & Priorities Survey



“

We see growth opportunities driven by innovation as we launch new and different products

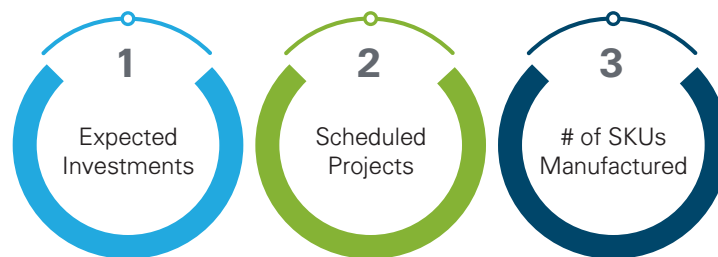
We are introducing new packaging materials, providing more product protection and substituting old machinery with new offering better performance and lower production costs.

”



2023 PMMI Purchasing Index - Performance by Industry

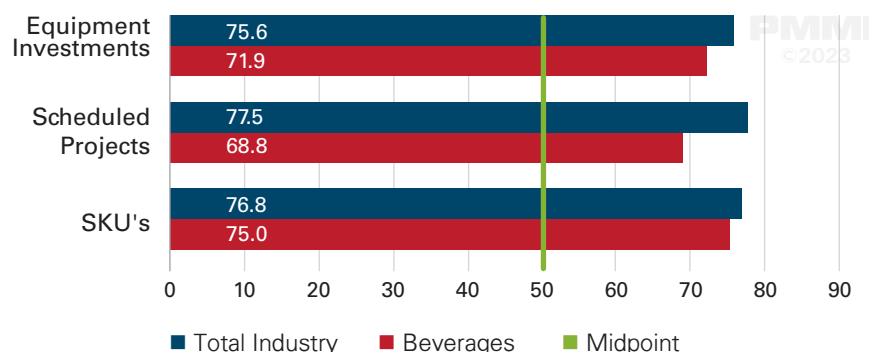
The 2023 purchasing index measures expected industry performance based on three main metrics, all aligned with CPG survey responses:



An index of 50 represents the midpoint or no change, a reading above 50 indicates the metric is generally expanding and below 50 indicates it is expected to contract.

Beverages

2023 Beverages Industry Purchasing Index



Beverage companies are reporting expansion in every metric, albeit at a slightly slower pace than the overall market.

The beverage industry purchasing index is posting a significant improvement compared to the most recent Q2 2022 measurement, where it only reached 40 points, which was a contraction in investment activity.

Activity for scheduled projects and new SKUs remains healthy and shows expansion for 2023.

Interviewed companies expect moderate growth in 2023, still most indicate plans to move forward with investments. Although inflation is impacting some beverage sector niches, most companies expect demand to continue growing, although at a slower pace than in years prior. "Soft growth" is the mean expectation.

Only 44% of the companies interviewed have purchased equipment originating outside of North America in the last two years, and of these purchases, the majority have been secondary packaging equipment. Overall, beverage companies perceive North American manufacturers as providing good quality, reliability, performance and value. In addition, they consider North American machinery to be more flexible, simple and easy to service or maintain. By contrast, they have found European machinery to be more complex, with interphases, systems and manuals that are often too technical for operators.

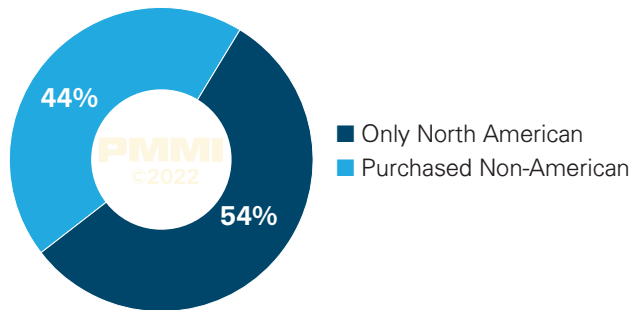
ONLY
44%

of the companies interviewed have purchased equipment originating outside of North America in the last two years

The majority have been secondary packaging equipment



Beverage Machinery Purchase Origin 2021-2022



Service is the area where beverage companies believe packaging machinery suppliers could improve. Although beverage companies have seen progress in spare parts delivery times, they have not had a timely response from machinery suppliers when there is a problem in their lines. In some cases, when beverage companies receive technical visits, the technicians lack sufficient experience and understanding, especially of connectivity and software issues.

“

We stock common wear spare parts and we have seen a significant improvement in delivery times. Now we are getting parts withing 24 hours, while one year ago we had to wait several days.

Packaging machinery companies can improve by getting somebody on the phone that is knowledgeable of the equipment and who can respond quickly.

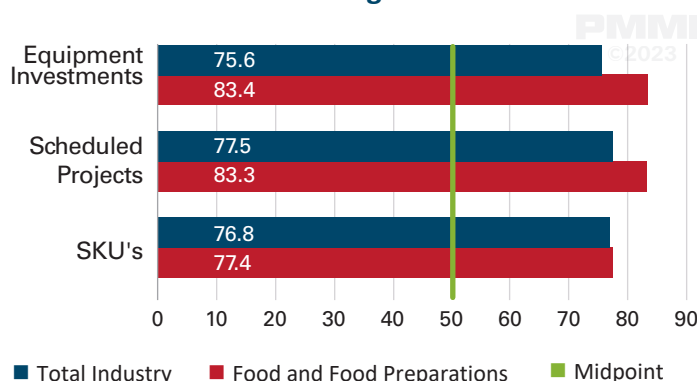
Machinery suppliers need to train their service personnel on digital capabilities. They send technicians who are knowledgeable about mechanical issues, but when problems originate from connectivity or software, they don't know what to do.

Service technicians should have access to better troubleshooting databases and be knowledgeable on how to solve problems. Technicians have given us three different opinions on how to address the same problem, and still they haven't been able to resolve it.

”

Food and Food Preparations

2023 Food and Food Preparations Industry Purchasing Index



Respondents from the food and food preparations sector are reporting strong expansive activity in every metric. They are optimistic about investments for 2023 and are expanding more than the total machinery market average.

All metrics in this sector are considerably higher than those of 2022, showing that despite inflation and economic uncertainty, these companies expect demand for packaged food products to remain strong.

Most companies interviewed have machinery investment projects planned, primarily related to capacity expansion or new SKUs, with some involving automating processes or adding new fully automated lines.

Companies anticipate a SKU expansion in 2023 at a faster pace than the industry average and compared to 2022.

The food and food preparations industry is one of the most dynamic in terms of presentation changes and innovation. Product protection and package performance have gained importance due to changing lifestyles, an increase in home delivery and e-commerce growth.

In general, for respondents in this industry, sustainability is a secondary consideration in machinery vendor selection, while other factors such as cost-performance, reliability, price, flexibility or the ability to run different materials and ease of operation rank higher.

A general sentiment among food companies is that due to information technology, communications and digitalization advancements, machinery is becoming more complex. Manufacturers are prioritizing measuring, sensing and monitoring everything rather than focusing on what is important for operators, which is having intuitive and easy to operate machinery.

“

While sustainability is an important topic and regulations are increasingly strict, several other factors are more important when selecting suppliers.

The most sustainable machinery is the one that doesn't fail, that offers production continuity, minimizes waste, has low energy consumption and a low carbon footprint.

Sustainability and environmental responsibility are growing in importance. We research and analyze options to use more environmentally friendly materials and one of the main criteria evaluated is the ability to run with our existing machinery.

”

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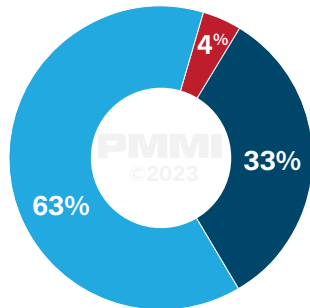
With older machinery, any operator experienced in motors, gears and electric components could identify a problem, fix it, hit the green button and the machine was running again. Today with newer machinery you need an engineer, a computer expert and someone from the machinery company connected to the machine and on video with the factory team telling them what to do. They should think on making it simpler.

”



Foreign packaging machinery has a strong market penetration in this sector, with 63% of food companies reporting to have purchased machinery outside of North America in the last two years. The primary purchasing criteria were better and more innovative technology or features and more integrated or complete solutions.

Food Machinery Purchase Origin 2021-2022



- Only North American
- Purchased Non-American
- N/A

Many food companies who reported purchasing machinery outside of North America selected European suppliers who have a reputation for reliability, high quality and advanced technology. A few reported purchasing Asian secondary packaging and labeling machinery, which offered a good price-technology value proposition.

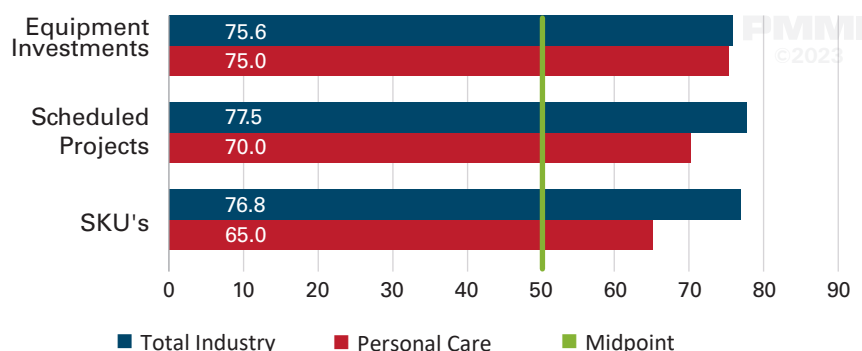
As with beverage companies, skilled workforce shortages were a common concern expressed by many respondents. In addition to being directly impacted, many of these companies see packaging machinery suppliers having similar problems and not providing experienced, not skilled service technicians when required.

“Packaging machinery manufacturers need to improve their service delivery. We’ve had cases where service technicians are not skilled or trained and need to escalate the problem to more experienced personnel, in some cases requiring a second or even third visit to fix a problem.”

Our main problem is finding experienced and well-trained labor. We spend too much time and resources on training and employee turnover continues, which is really annoying.”

Personal Care

2023 Personal Care Industry Purchasing Index



With few exceptions, personal care industry players are optimistic about their upcoming investments and scheduled projects for 2023, and both metrics improved compared to 2022

In the number of SKUs manufactured, PMMI's purchasing index also shows expansion. However, this indicator is posting more moderate growth than in previous years, indicating that while product expansion continues, personal care companies are becoming more conservative in introducing new products.

Respondents indicated strong pent-up demand and many reported difficulty finding suppliers who could commit to delivering machinery for their upcoming projects in a timely manner.

Among personal care companies, sustainability ranked higher in supplier selection criteria when compared to other sectors. However, due to machinery shortages, availability and delivery times have become more important than nearly any other factor.

Respondents from this industry continue to face supply chain problems, with only 40% seeing an improvement. They expressed problems in practically all areas of their operations, including machinery, raw materials, ingredients, chemicals, packaging, etc.

70% of respondents reported purchasing machinery from outside North America during the past two years. Some companies reported that in their industry, the leading suppliers are of European origin and have an important customer base, servicing capabilities and even manufacture some equipment and parts in North America.

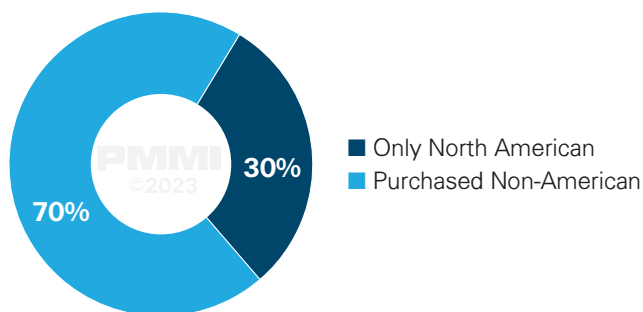
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We had investment projects placed on hold due to COVID-19. As things normalized, we resumed our plans but found that packaging machinery companies were fully booked and could not deliver machinery for 8, 12 and even up to 18 months.

We've had European equipment for many years. It is precise, reliable, well integrated from end-to-end and robust. Service is good, as the company has years in the market. Parts are available in the U.S. and there are service personnel in our area.

”

Personal Care Machinery Purchase Origin 2021-2022

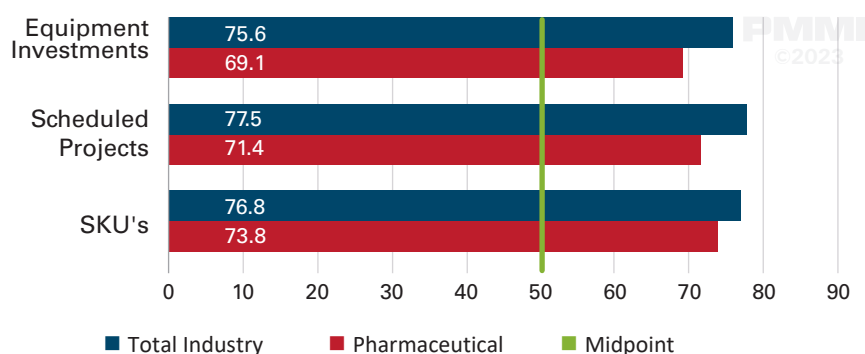


Recommendations for packaging machinery companies within the personal care sector were mostly related to the integration and availability of complete lines. Respondents indicated that, in general, European companies offer a complete packaging line with good customization, while U.S. companies specialize in single processes, which are more difficult to integrate, manage and service.



Pharmaceutical and Medical Devices

2023 Pharmaceutical Industry Purchasing Index



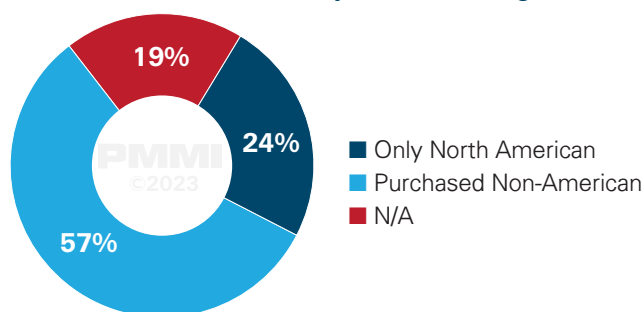
Compared to 2022, these companies are anticipating a significant deceleration in the number of scheduled projects, as the prior PMMI purchasing index measurement was 91.7.

Pharmaceutical and medical device companies are optimistic about market trends, with expected increases in investments, scheduled projects and the number of SKUs. However, this sector is trending lower than other industries in these three metrics.

Inflation, higher interest rates, less R&D funding available and supply chain problems were among their concerns. Within this sector, 48% of companies expressed supply chain improvements, while 19% indicated that it is getting worse. This supply chain metric was the weakest among all industries.

European (mostly German, Italian and Swiss) machinery companies have traditionally had strong penetration in this sector, with a smaller representation of Japanese and American companies. Users reported problems finding suppliers in Europe able to commit to delivery dates.

Pharmaceutical Machinery Purchase Origin 2021-2022



57%

of respondents indicated they purchased machinery from outside North America in recent years, while

19%

were not sure where the machinery was manufactured.

Within the pharmaceutical sector, safety and flexibility ranked higher as operational priorities than in any other industry, and during the interviews those topics were frequently discussed.

“

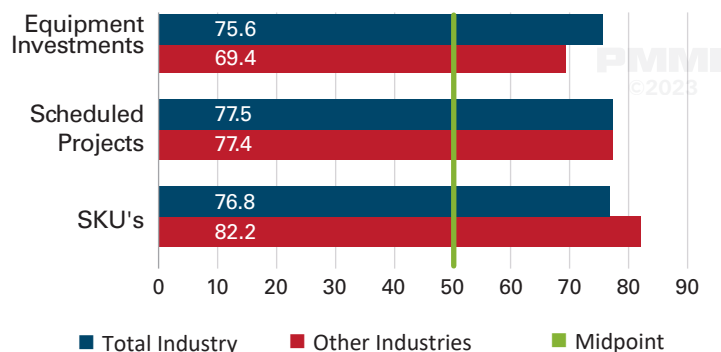
Pharma and medical device companies need to comply with Good Manufacturing Practices (GMPs) and industry-specific regulations. Most have controlled environments and strict documentation and quality control requirements. Thus, only a few pre-qualified vendors can participate in our purchasing processes.

”

Survey respondent recommendations for packaging machinery companies in this sector were diverse, ranging from providing spare parts, to lower prices, total cost of ownership and service. The most common recommendation was to provide faster spare parts delivery. Some of the respondents indicated they would like to see faster response times when they require a part or component that is not considered part of a regular maintenance program.

Other Industries

2023 Other Industries Purchasing Index



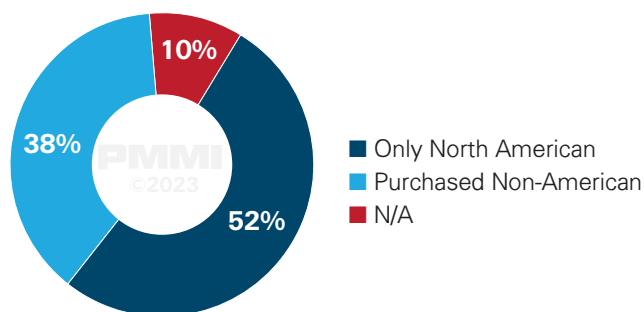
The “other industries” category groups all other sectors that use processing and packaging machinery and fall outside of the four major industries previously covered. These include co-packers or contract packagers, durable goods, industrial chemicals, agricultural products and tobacco, among others.

Companies within these industries are reporting planned investments slightly below the industry average. Although scheduled projects align with the industry average, these companies report plans to launch more SKUs than the total market metric.

Companies in these industries are forecasting increases in all three metrics, sharing the overall industry-wide optimism for upcoming investments, projects and SKU additions.

Only 38% of survey respondents indicated they purchased non-North American machinery in the last two years, and those that did, mentioned either that they could not find the machinery needed from manufacturers in North America or that they found better costs elsewhere.

Other Industries Machinery Purchase Origin 2021-2022



Several companies in this segment continue facing supply chain challenges, with 20% indicating that they anticipate these issues continuing to worsen.

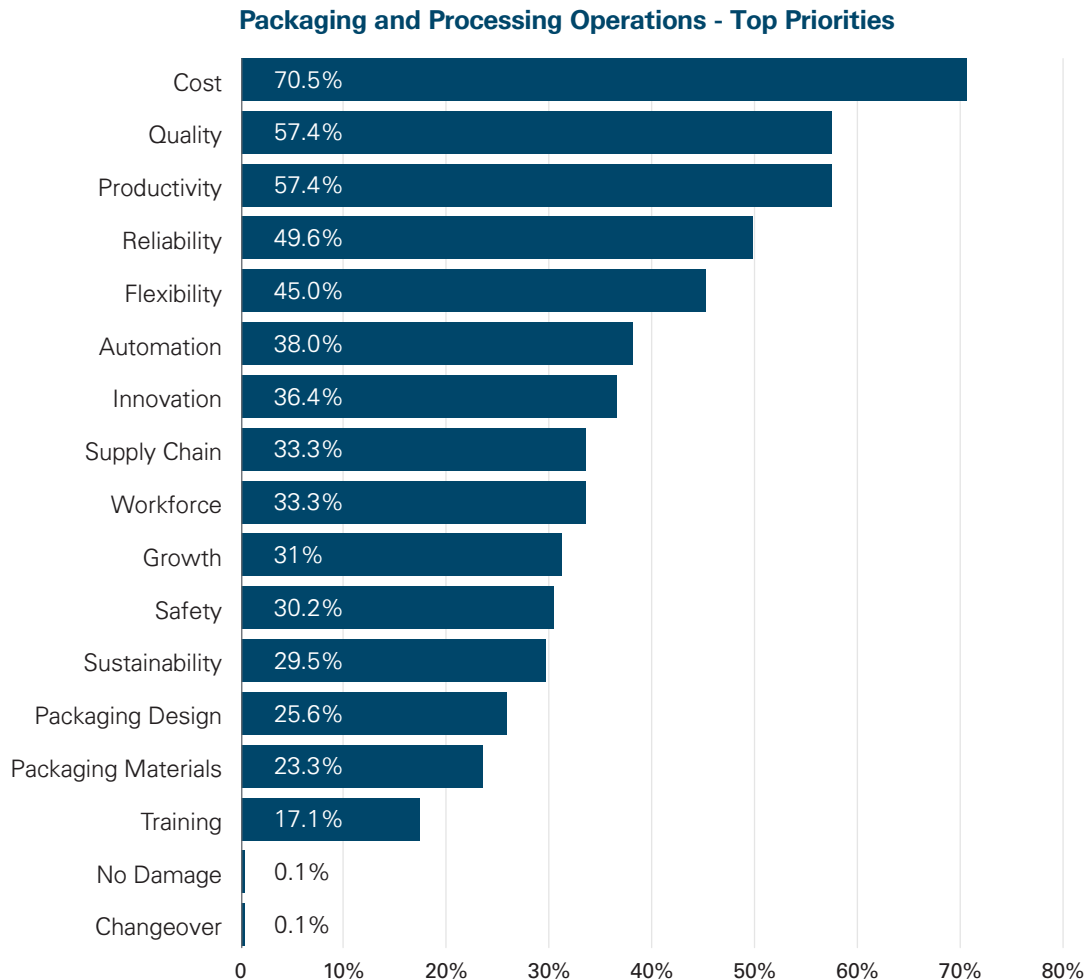




Packaging and Processing Operational Priorities



Packaging and Processing Operational Priorities



Cost

Cost is by far the top packaging and processing operational priority of companies surveyed. Respondents concurred that cost reduction is a key driver in deciding whether to move forward with new projects or machinery purchases.

“

When we have a new project, we set KPIs and a budget. While there are various decision-making factors, the most important are production costs, return on investment and smooth operations.

”





Quality, Productivity and Reliability

Following and highly related to cost, quality, productivity and reliability are other key operational priorities. Surveyed companies define quality as machinery that is robust and reliable, operates according to specifications, is precise and easy to operate and maintain. Quality, productivity and reliability are largely intertwined and all impact cost and ROI.

“

Minimizing downtimes is what we all seek.

”

CPGs are increasingly seeking predictive maintenance and remote monitoring to ensure productivity and reliability. Packaging machinery companies addressing these factors offer a meaningful competitive advantage.

“

Non-scheduled downtimes represent huge costs. Machinery that features lights and alarms in the HMI when service is required or when a problem is detected before becoming something major is highly valued.

”



Flexibility

Although flexibility ranks fifth in the list of operational priorities, the ability to run current and new packaging materials is the top factor that companies consider when purchasing new machinery. Flexibility is of key importance for mid-sized and small companies, with 56% considering it a decision factor of extreme importance. For larger companies (above US\$5 billion in revenue), 39% consider flexibility to be critical.

Companies in the food and beverage sectors consider flexibility a higher operational priority than those in personal care and pharmaceuticals.

56%

of the mid-sized and small companies consider flexibility to be extremely important.

39%

of large companies consider it to be critical



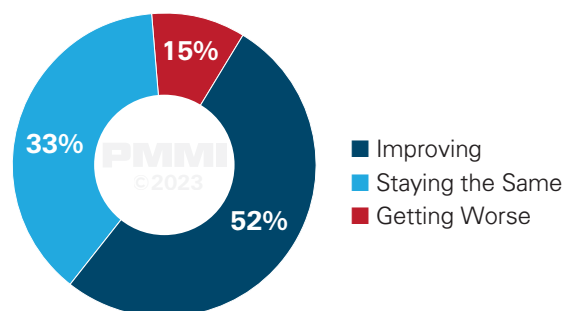
Other Factors

While operational priorities such as supply chain, workforce, training and sustainability don't rank as high, they are relevant factors of increasing concern among the CPGs interviewed.



Supply Chain

52% of companies expect supply chain issues to improve in 2023, while 15% anticipate that they will get worse. Companies in the food and beverage sector are more optimistic in this regard, while those in other sectors believe that supply chain problems will continue to impact their operations over the next year.



Companies reported difficulties in sourcing packaging machinery during 2021 and part of 2022, with vendors offering longer than usual delivery times or unable to commit to a delivery date, claiming there were shortages of key machinery components, including controllers, interphases and chips. While the situation has largely normalized, some companies reported that they continue to experience longer than usual delivery times.

Supply chain problems were also reported for raw materials, ingredients and packaging supplies among companies in the industrial and household chemicals, baby formula, pet food and tobacco sectors. In general, however, companies consider the supply chain situation, while not fully resolved, to be improving.



Sustainability

While sustainability does not rank highly among operational priorities or packaging machinery decision-making factors, it was a recurring topic that packaging machinery buyers brought up in interviews. Many companies are concerned about the potential impact of Extended Producer Responsibility (EPR) legislation, which mandates that they reduce the impact their packages have on the environment. Apparently, there is lack of clarity on metrics, compliance requirements and costs associated with the regulation. Although EPR legislation is obviously a topic of concern, its impact in operations and purchasing decisions, at least for the time being, is secondary to cost and efficiencies.

CPGs indicated that sustainability is not among the key factors considered when selecting suppliers, and that other factors such as cost, package performance, quality and service currently carry more decision-making weight. However, respondents mentioned that potential legislation and corporate operational changes will require packaging machinery to be able to handle new recyclable or biodegradable materials. Sustainability and technology were key factors addressed at PMMI's 2023 Top to Top Summit held in California in early March, where companies discussed EPR and environmental, legislation, and social governance (ESG). These are worth monitoring, as they are likely to impact future machinery and supplier selection decision-making processes.



Workforce and Training

Workforce barely made it in the top ten operational priorities, as it was selected by only one third of respondents. Training ranked even lower, selected by 17.1%. However, companies repeatedly mentioned labor shortages, the difficulty of finding and recruiting skilled personnel and workforce retention as operational machinery concerns.

Attracting and retaining skilled workers has become more difficult as younger workers are not interested in manufacturing careers. Those selecting this career path often lack advanced skills in areas such as information technology, electronics and robotics, competencies that modern manufacturing increasingly requires.

Some companies are implementing internal training and apprenticeship programs, while others report success in working with community colleges and technical schools to train personnel on specific skills.

Several companies expressed frustration in training personnel and then not being able to retain them despite offering good wages and benefits. They mentioned that younger workers are seeking remote or hybrid (in-person/remote) schedules, which are difficult to accommodate in manufacturing where an on-site presence is essential.



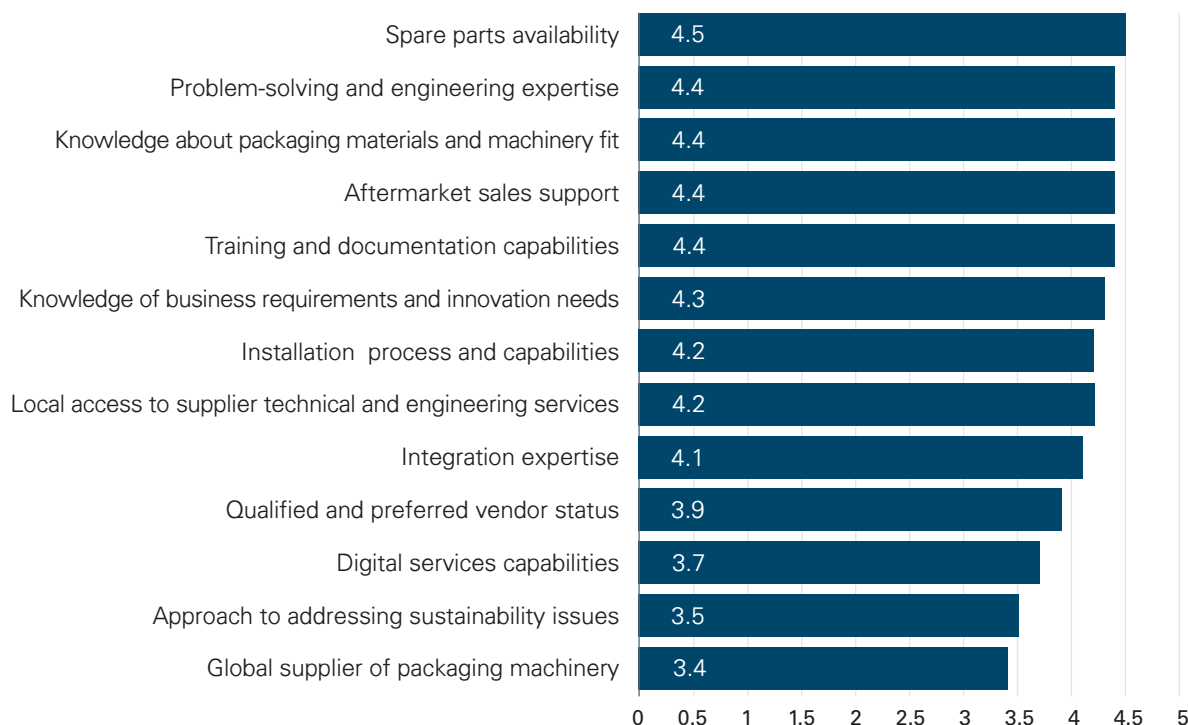
Machinery and Supplier Evaluation Factors

Companies were asked to rank the importance of various factors in making packaging machinery decisions. The rankings covered five categories in descending order, from extremely important⁵ to not at all important¹. The following charts show the mean importance ranking for each purchasing decision factor.

Key Machinery Purchasing Decision Factors



Key Packaging Machinery Supplier Evaluation Criteria







Recommendations for PMMI Members

Respondents provided recommendations for packaging machinery companies. They were asked to either indicate a single area or issue with the greatest opportunity for improvement or to provide advice to packaging machinery companies on how they can improve their products, services or delivery.

Recommendations were grouped into the following categories:

1

Addressing Operational Costs

Operational costs are a top priority of packaging and processing companies. Respondents indicated they would like machinery manufacturers to offer solutions for improving operational cost-performance KPIs rather than focusing on product characteristics, desired speed and throughput.

“

Packaging machinery suppliers tend to focus on desired speed and performance instead of addressing key issues such as product protection, cost performance, personnel capabilities and operational improvements.

All too often, we are forced to adapt to the machinery that is available when ideally machinery manufacturers should adapt their offering to solve our operational problems.

”

2

Spare Parts Availability and Delivery Speeds

Spare parts availability ranks at the top of the supplier evaluation criteria. Companies generally stock common wear or standard servicing replacement parts, but when they require parts that are not of common wear, they are typically not available or have delayed shipping times. Machinery manufacturers should understand that replacement part response times are critical because line closings are very costly. A 24-hour response is considered ideal, 2 to 3 days is acceptable and over a week is undesirable.

3

Packaging Materials Knowledge and Recommendations

The ability to run current and new packaging materials is high on the list of machinery purchasing decision factors. Knowledge of packaging materials and machinery is the third most important factor in supplier selection. Most packaging machinery manufacturers are well versed and knowledgeable of common packaging materials. However, with new environmental regulations on the horizon, end users are interested in information and recommendations related to new recyclable or compostable packaging materials that will meet ESG regulations.

4

Troubleshooting and Problem-solving Consistency

Engineering expertise and problem-solving ranked second in importance among supplier selection criteria and several companies made recommendations for improvement in these areas.

Companies report receiving inconsistent responses from service technicians when problems arise. They recommend that machinery manufacturers have clear and easy to understand troubleshooting databases. According to respondents, packaging machinery companies tend to prioritize sending an onsite technician and miss the opportunity to effectively troubleshoot issues over the phone first.

Respondents also recommend that packaging machinery technicians follow a checklist when visiting companies for maintenance or problem solving. Technicians tend to want to complete maintenance or solve problems quickly, and occasionally in their haste, they fail to complete required tasks, or they provide an incomplete solution. Better training and more committed technicians are required.

5

Need for More Intuitive HMIs and Simple Operational Manuals

Machinery manufacturers should develop more intuitive HMIs, using icons, images and colors to simplify the operator interface.

“

Nobody receives training to use a smartphone. It is intuitive and easy to understand. We spend too much time and money training staff how to operate machinery with complex menus and screens full of data when the interface could be much simpler and more intuitive.

”

6

Integration and Reliability

Machinery manufacturers often sell machines that need to be integrated into an existing line via a third-party integrator. When things don't work as planned, the machinery vendor blames poor integration, and the integrator blames the machinery interphase. Greater integration involvement and support are needed.

7

Ease of Access for Maintenance and Re-tooling

Machinery manufacturers are offering more compact equipment. Although this is beneficial, end users are finding it harder to access motors and components. Respondents recommend keeping machines user friendly by not requiring uncommon tools or making access difficult when changes or re-tooling are needed.

8

Service

Labor shortages and the scarcity of trained and capable personnel have also affected packaging machinery companies, as service-related recommendations were the most prevalent.

Recommendations related to service range from “getting somebody on the phone who can respond quickly” to “getting consistent responses on how to deal with problems” to having skilled service technicians who can address problems on the first visit and don't need to escalate them to a higher-level technician that requires additional visits.

Respondents also recommended that packaging machinery companies improve their digital service capabilities.

9

Appropriate, Consistent and Easy to Understand Operator Training

Employee rotation and the unavailability of experienced and trained personnel are common concerns among CPGs. They would like to see improvements in packaging machinery company training programs, with access to videos, illustrated tutorials and digital libraries that operators could use to learn the basic operation and maintenance requirements of the machinery. Operators in general don't like reading nor do they understand complex technical manuals. Videos and illustrations are generally a better fit for their needs.





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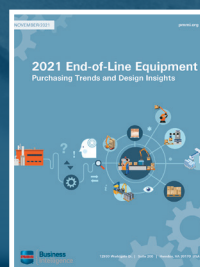
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