

March + April 2023

Grayway

Pet Food Trends: Efficiency Wins the Inflation Fight

The Role of
Automation
in the War
Against Waste





Welcome.

Last year was tough for manufacturers. One of the greatest issues was the steady rise in inflation, driven by supply chain disruptions, material shortages, and the Russian invasion of Ukraine. These impacts were especially hard on pet food manufacturers, who saw year-over-year increases in ingredient prices as high as 22%. This created severe cost pressures on customers.

Increasing the efficiency of operations through automation is one way to combat higher inflationary costs. With the Internet of Things, virtually any process can be automated, which improves quality and increases capacity by up to 50%. If the up-front cost of automation is too expensive, manufacturers can “rent” the automation they need for a reasonable monthly fee, and scale up later when they are comfortable with the technology.

Many experts predict inflation will continue to drop and stabilize throughout 2023, which is good news for consumers, manufacturers, and suppliers. It’s also the perfect time for companies to look into the benefits of automation and implement these capabilities for when (not if) the next challenge arises.

Stephen Gray
President & CEO
GRAY, INC.

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Controlling Inflation through Operational Efficiency

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Pet Food Processors Fight Inflation with Waste Reduction

For pet food manufacturers, inflation has driven up the costs of ingredients by as much as 20%. Technologies that can reduce the impact of inflation include automation and other “smart” equipment, including “pigging.”



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Turning to Automation: Reducing Costs & Increasing Efficiency

Automation is a viable option for improved efficiency in manufacturing processes, increasing throughput by 25-50%. Automation services can also be “rented” with minimal capital investment.



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Raw Pet Food Production: A Matter of Instinct

Selected to deliver innovative facility and process design for Instinct Pet Food’s new raw pet food production facility, Gray is expanding its role as a leading integrated service provider for pet food processors.



Pet Food Processors Fight Inflation with Waste Reduction

“From packaging, through processing and onto the shelf, I can’t really tell you a part [of the process] that isn’t challenged or complicated.”

Dana Brooks
President & CEO
PET FOOD INSTITUTE



2021 and the early months of 2022 brought a myriad of changes for pet owners. Post-pandemic shortages led to inflation and soaring pet food costs that seemed to continually rise with no signs of slowing down.

In August 2022, [pet food inflation](#) in the U.S. reached a new high, rising 13.1% year over year (YOY) from 2021. In the next month, pet food prices jumped 14% YOY, according to U.S. government data compiled and analyzed by [pet business professor](#) John Gibbons . Pet food inflation then hit 15% YOY in October and rose yet again in November 2022, [reaching 15.7%](#) YOY.

Factors that are driving pet food inflation are pandemic-related [disruptions in supply chains](#), an unsteady economy, and Russia’s invasion of Ukraine. Other impactors are labor shortages, constricted supplies of materials and ingredients, and the relentless inflation of prices for packaging materials and ingredients.

[Dana Brooks](#), president and CEO of the [Pet Food Institute](#) (PFI), states that “from packaging, through processing and onto the shelf, I can’t really tell you a part [of the process] that isn’t challenged or complicated.”

According to PFI, ingredient costs have risen 8% to 20% in 2022, especially with big price hikes for corn and soybean derivatives, the two main ingredients in many dog and cat food formulations.

“Aluminum and silver aluminum tariffs that were imposed even prior to the

pandemic are also creating challenges in sourcing the cans,” Brooks adds.

Impacts on the Consumer.

Last year, [NielsenIQ](#) surveyed pet owners about their pet food purchasing decisions. Nearly two-thirds of respondents indicated that, even if prices continue to rise, they do not plan or desire to “trade down” to lower-priced foods. Despite this statistic, [a recent survey](#) of 1,000 pet owners found that over the past 12 months 50% were forced to buy cheaper types of pet food due to rising costs. These seemingly ever increasing costs are forcing pet owners to make decisions they rather wouldn’t, but with the unrelenting cost escalators, are left with no choice.

Other key findings from the survey are:

- 55% of respondents indicated they had canceled their pet food subscriptions on Chewy.com, Amazon.com, and other websites
- 73% of pet owners believe a food pantry for pets would be helpful to them during the current period of inflation
- Nearly 25% of respondents considered giving their pets away or surrendering them to a shelter due to rising costs in food and other expenses

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 “Pigging systems are a quick and easy way to increase yields and significantly reduce wastage of expensive, usable pet food.”

Hygenic Pigging Systems Ltd (HPS)

What Pet Food Manufacturers Can Do.

With pet food manufacturers facing a barrage of significant cost increases, especially for raw materials and food ingredients, it is becoming extremely difficult for many of them to stay competitive and earn a profitable margin.

One way to control manufacturing costs is to reduce material waste and make food processing more efficient, ideally passing some of these savings on to the consumer. Technologies that can improve the efficiency in food processing plants include “smart” equipment, artificial intelligence, cloud-based data analytics, predictive maintenance, automation, and robotics. Considering that raw materials represent [60% to 80%](#) of a pet food producer’s operating costs, wasting food ingredients through inefficient manufacturing is particularly damaging to the bottom line. One cost-reduction strategy that is especially effective in recovering “wasted” wet food ingredients from pipelines is a process of liquid product recovery called “pigging.”

“Pigging systems recover residual liquid from process pipelines,” [states HPS](#), a leader in pigging technology. “It is a way for pet food manufacturers

to improve the efficiency, productivity, profitability, and the competitiveness of their processing operations. We use a retrieval tool to recover perfectly usable but residual pet food left in pipelines during processing. Pigging systems recover up to 99.5% of residual product from pipelines.”

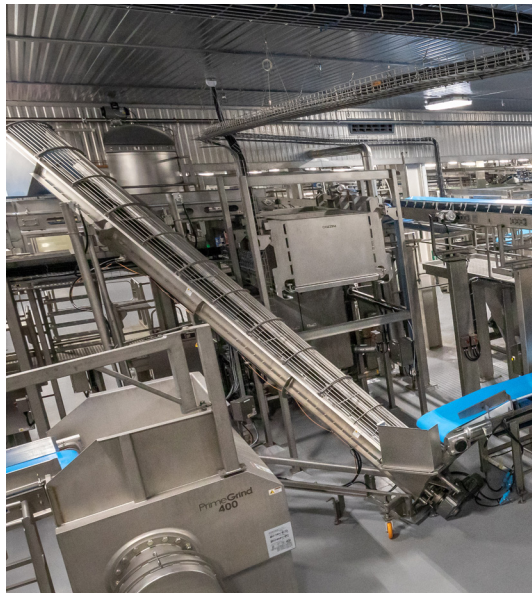
Eliminating the waste of high-cost ingredients is especially important for wet-food products that have some of the highest inflation rates—for example, 22% YOY for wet dog food and 18.8% for wet cat food (October-November 2022).

The reclaimed food ingredients can then be packaged, used, stored, or sold just like other products. “Therefore, pigging systems are a quick and easy way to increase yields and significantly reduce wastage of expensive, usable pet food,” adds HPS.

In general, pet food inflation tends to follow human food inflation trends. An encouraging sign is that, with U.S. inflation falling from about 9% in the summer of 2022 to 6.5% in December, pet food inflation will hopefully soon follow with pet food prices stabilizing in a more affordable range.



Turning to Automation: Reducing Costs & Increasing Efficiency



Automation improves the quality, efficiency, reliability, and repeatability of manufacturing processes and frees up employees who were previously doing the same tasks, allowing them to take on less repetitive and more challenging, judgment-intensive work.

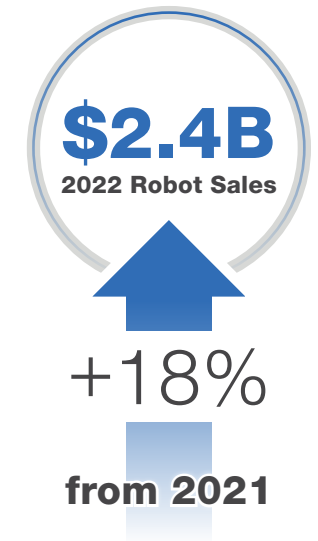
With the utilization of automation, production can happen faster, scrap waste is reduced, fewer defects are produced, less rework is needed, and company morale is improved. All these are great on their own, but together, they contribute to continuous improvement and productivity gains which drive down costs and increase production quality.

In the world of production where time is money, and money seems to not go as far as it used to, automation is a tool in a manufacturer's belt to bring efficiency to the process that then brings value to consumers.

Production lines don't just run faster, but also more efficiently, when they are automated, providing more output per unit of time. For example, industry experts indicate that process automation typically increases throughput by as much as 50%. This boost in capacity allows manufacturers to take on more projects, increasing revenue. The increased opportunity for additional productivity isn't going unnoticed. [New reports](#) show robot sales reached record levels for North America in 2022 with \$2.4B in sales, an 18% increase from 2021.

Benefits of process automation include:

- Enhanced product quality with fewer defects/returns
- Improved operational insights/improvements from data collection and analysis
- Reduced operation, maintenance, and labor costs
- Increased productivity and reliability



- Increased workplace safety and compliance
- More efficient inventory and warehouse management
- Data analytics improve processes, eliminate bottlenecks
- Improved customer satisfaction (higher quality, faster delivery)
- Automation connects multiple locations for real-time decision making
- Creates a transformative experience for the entire organization

Investing in Automation.

If you are new to automation and want to determine its value, start by selecting a few steps in your manufacturing process that could use improvement. Depending on the type of application, scale and complexity, and equipment required, deploying an automated industrial solution varies in cost.

The return on investment (ROI) for a purchase of a robotic process automation system can be difficult to measure and depends on a variety of factors, including the complexity of the manufacturing system, IT requirements, staffing needs, and production goals.

Variables that should be considered in an ROI calculation include robot system usage, total robot system cost, IT resources needed, labor costs per operator, number of operators removed, expected productivity gain (throughput), material savings, distribution, maintenance, operation, and training costs, hiring and retention costs, and safety and ergonomics.

In general, a good estimate is that initial costs [may be recouped within two to three years](#). If the up-front purchase price for process automation is too steep, or management is cautious and would rather try automation first on a limited basis before investing heavily in a solution, or the company

wants the ability to scale up or down easily, automation as a service (AaaS) may be the best solution.

AaaS integrates [robotic process automation](#) and [business process automation](#) to provide companies with automation solutions at an affordable monthly cost that improves how manufacturing or business processes perform across all business units. AaaS also improves employee engagement, from front-line workers to top-level management.

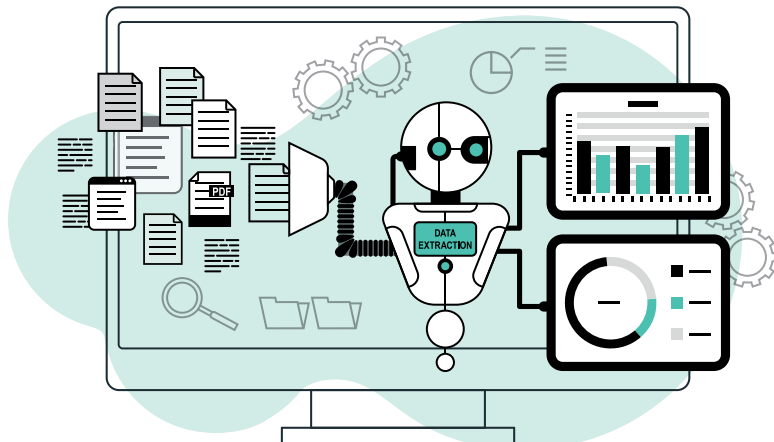
“AaaS allows for manufacturers to secure automation solutions as a part of their operating budget rather than as a capital expenditure,” says Dean Elkins, senior director of advanced automation for [Gray Solutions](#), a Gray company. “This allows the manufacturer to apply labor and compare an hourly rental rate as compared to operators. This model helps fill the gap in times of spiked production or when short term automation solutions are required for reasons of seasonality.”

The value of a new automation system is derived by creating new agile and flexible workflows

“Automation as a service (AaaS) allows for manufacturers to secure automation solutions as a part of their operating budget rather than as a capital expenditure.”

Dean Elkins
Senior Director of Advanced Automation
GRAY SOLUTIONS

where every part of the operation performs optimally during times of peak demand. “Aside from addressing labor shortages, automation adds benefits such as greater flexibility, increased average throughput, and less waste due to human error and scrap,” says Elkins.



INSTINCT | LINCOLN, NEBRASKA

Gray Partners with Instinct on Freeze-Dried Raw Pet Food Facility

Instinct Pet Food believes in the transformative benefits of minimally processed, raw pet food.

Headquartered in St. Louis, the company produces a variety of foods for dogs and cats, with a primary focus on frozen and freeze-dried raw meals.

For its newest production facility, the customer selected Gray to design and build a 235,000 s.f. plant for manufacturing freeze-dried pet food. Through this collaboration, Gray is responsible for complete process design, engineering, and layout for the facility’s production and cold storage areas, as well as utilities and equipment to allow for a planned expansion.

When completed, this Centre of Excellence facility will provide best-in-show practices and tours for customers and partners.



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