



RESILIENCE IN THE FOOD INDUSTRY

Enhancing Resilience in the Food Industry Through Automation

In the realm of food production, resilience refers to the capacity to adapt to change. This encompasses various factors such as shifts in market demand and fluctuations in energy prices, all of which necessitate the streamlining of processes to maximize efficiency and reliability. Automation and digitalization have emerged as vital contributors to achieving this objective.

An indispensable tool in bolstering resilience is condition monitoring, which provides operators with continuous insights into the performance of their plant. The increased adoption of automation and digitalization enables food manufacturers to gather valuable data from existing facilities and employ it to optimize performance. By enhancing overall operational efficiency, businesses can cultivate greater resilience. For instance, if two identical production lines are being monitored, and one begins to experience an increased number of rejected products, the ability to compare performance allows for efficient identification of the underlying cause. Sustaining smooth production can positively impact product quality and financial outcomes, ultimately fortifying the business's resilience.



Andy MacPherson, Food & Beverage Manager at Festo



Keeping production running smoothly can have a positive impact on product quality and the bottom line, which makes your business more resilient.



Additionally, this data can contribute to improved visibility regarding impending repair and maintenance needs, leading to enhanced efficiency and uptime. Deviations from normal parameters, such as temperature, vibration, or energy consumption, can serve as critical indicators of suboptimal performance. By promptly detecting these variations, equipment failure can be averted, ensuring uninterrupted production and minimizing downtime. Festo Smartenance offers food manufacturers an avenue to achieve this level of visibility. This user-friendly software tool facilitates swift installation and provides a cost-effective means of collecting and analyzing valuable data for condition monitoring and predictive maintenance protocols.

Moreover, recent surges in energy prices have become a focal point for food manufacturers and processors. The challenge lies in maximizing the value derived from consumed energy while simultaneously reducing overall energy consumption to control costs. Detecting and rectifying air leakages in compressed air supplies can significantly enhance resilience to energy price fluctuations. Festo's MS6-E2M module presents a viable solution by autonomously monitoring and regulating the compressed air supply in both new and existing systems. It diagnoses and signals maintenance requirements based on actual needs. Through seamless integration into machine control systems via Profibus, the module cyclically exchanges essential data such as energy consumption and machine availability with the control system.

Looking ahead, the optimization of food processing plants is poised to become increasingly autonomous. The incorporation of Artificial Intelligence into the realm of digitalization will empower machines to self-determine the interventions they require and when to implement them, further augmenting their resilience.