

Active and Intelligent Packaging - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Active and Intelligent Packaging Market size is estimated at USD 15.43 billion in 2025, and is expected to reach USD 21.19 billion by 2030, at a CAGR of 6.55% during the forecast period (2025-2030).

Key Highlights

- Active packaging systems are being developed to extend the shelf life of foods and increase the period that the food is of high quality. Active packaging allows packages to interact with food and the environment and plays an important role in food preservation. Food processing companies drive active packaging demand to keep food fresh for extended periods and throughout the supply chain to reduce food waste and promote more convenient packaging for consumers.
- According to the UN environment program, approximately 1.3 billion metric tons (1.43 billion tons) of all food produced globally is lost or wasted every year. In the United States, an estimated 133 billion pounds of food are wasted yearly, valued at USD 161 billion. Innovative active packaging solutions can be implemented to reduce food wastage. In the future, the demand for active packaging may grow as they are intended to reduce food waste and improve food safety.
- Increasing demand for security and tracking solutions drives growth in the active and intelligent packaging market. For instance, RFID tags provide the ability to identify, control, and manage the food supply chain. These are more advanced, reliable, and efficient than conventional barcode tags for food traceability. RFID tags for monitoring the products' temperature, relative humidity, pressure, pH, and light exposure are already available on the market, aiding in enhancing food quality and safety.
- The primary advantage of active and intelligent packaging lies in its ability to interact with the enclosed product, playing a dynamic role in its preservation. The process keeps track of tagged information throughout the supply chain. Active packaging may change food composition and organoleptic characteristics, provided the changes are consistent with the food provisions. However, it also raises contamination issues, as plastic seepage into foods may lead to health complications.
- Furthermore, the emergence of the COVID-19 pandemic has led to an increase in visible behavioral changes due to a higher

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inclination toward safe and traceable food on e-commerce platforms and raised public consciousness of health and safety in general. According to an IBM study, approximately 71% of consumers were willing to pay an additional average premium of around 37% for companies providing full transparency and traceability of their products.

Active and Intelligent Packaging Market Trends

Increasing Demand For Longer-lasting And Sustainable Packaging Products

- Traditional packaging protects food from environmental hazards as it travels through the supply chain to the final customer. Nevertheless, it is inert because it does not enhance the value of the contents. However, science is altering this by allowing packaging to communicate with food. As the supply chain becomes digitalized, technology is becoming more important as it offers operational advantages that enable businesses to respond to changing market conditions. Additionally, digitizing makes it easier to comply with regulations and satisfies the market's demand for transparency. This trend is driven by shifting customer expectations for environmentally friendly packaging products.
- For example, the 2021 Global Buying Green Report found that 54% of customers considered sustainable packaging when selecting a product. Within that demography, consumers under the age of 44 are driving this movement. 83% of the consumers said they would be prepared to pay more for goods made with sustainable practices.
- In July 2021, in an effort for further sustainability, Flipkart and Myntra teamed up with the non-profit canopy to acquire sustainable packaging. The Flipkart group joined Canopy's Pack4Good and CanopyStyle programs to strengthen their commitment to sustainability and advance sustainable material sourcing and packaging.
- In July 2022, after four years of investigation to develop a more effective and long-lasting storage option, the NEMOSINE Project, led by AIMPLAS, ended. The project successfully produced innovative, long-lasting packaging that aids in lowering the energy usage and expenses of conventional storage methods for film, cinematographic, and photographic archives.
- In January 2022, a Department of Food Science professor at Rutgers University teamed with ProAmpac, a flexible packaging, and material science player. A new partnership with ProAmpac's Material Science and Innovation team has been formed to help the company fulfill its promise of producing active and intelligent food packaging. Such collaborations may drive innovations toward sustainable and long-lasting packaging products

North America Accounts for a Significant Share

- The US active and intelligent packaging market has been witnessing significant growth over the past few years, owing to the favorable regulatory landscape, growing emphasis on sustainability, and increasing demand for active and intelligent packaging across various end-user segments, especially the food and healthcare industry.
- According to the Food and Agriculture Organization of the United States, in the United States, an estimated 133 billion pounds of food, at a value of USD 161 billion, is wasted yearly. Efforts to reduce food waste are multifaceted and include increased diversion of food to food banks, education and outreach, and efforts to standardize date markings on food labels. Furthermore, reducing food waste through active and intelligent (A&I) packaging is gaining significant traction in the United States.
- Moreover, the growth of intelligent packaging in the food industry is significantly attributed to government efforts, as beyond reducing food waste or helping to ensure food safety, intelligent packaging also can track the location and condition of food. For instance, the US Department of Defense (DOD) and the Food and Drugs Association (FDA) encouraged using RFID technology for supply chain management and tracking and tracing products requiring active and intelligent packaging.
- Canada occupies the second largest market share in the North American region, with the majority of trends similar to the United States. The move toward healthier, less processed food, which has been packaged efficiently to ensure safety from contamination

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and increase the longevity of the shelf-life, is indicative of consumer preferences in the country.

- In addition, the Canadian Printable Electronics Industry Association has formed the IntelliPACK Leadership Council, in partnership with PAC, Packaging Consortium, to speed up the adoption of new intelligent packaging products and applications. The joint IntelliPACK program was launched in 2017 to drive the development and adoption of intelligent packaging enabled with printable, flexible, or organic electronics (PE).

Active and Intelligent Packaging Industry Overview

The active and intelligent packaging market is fragmented, with many players competing in the same space. Brand identity plays a major role in shaping consumer decisions in the market, as strong brands are synonymous with high performance and quality. Overall, the intensity of competitive rivalry is moderately high. Companies try to enter into long-term supply contracts to create a win-win situation by utilizing cost benefits and passing on the supply chain.

- May 2022- Avery Dennison announced its strategic partnership with Wiliot, a developer and provider of digital ID technologies to scale the IoT through the integration of atma.io and the development, design, and manufacturing of Wiliot tags, which will help to create an intelligent and fully connected IoT.
- April 2022 - Amcor PLC invested in establishing new thermoforming capabilities for medical packaging in its Sligo, Ireland, healthcare packaging facility. The multi-million-dollar investment would strengthen Amcor's growth industry for sterile packaging, offering customers in Europe and North America another site with comprehensive healthcare solutions.
- March 2022 - Graphic Packaging extended a range of sustainable packaging solutions for the beverage industry. In line with its commitment to ongoing product innovation in support of a more circular economy, the business launched EnviroClip, a minimal material, paperboard alternative to plastic rings and shrink film for standard beverage cans.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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