



# Packaging

Ingram Micro is a global leader in technology and supply chain services and plays an integral role in a global supply chain that moves technology products from manufacturers to end customers. Across our lines of business, we ship approximately 1.5 billion units per year.

Packaging is an essential part of our supply chain. Our customers rightfully expect that the items they order arrive damage-free. To accomplish this, we and other shippers frequently use packaging to protect our products during transit. In our industry, the products come from the manufacturers in what is known as “primary packaging.” The product’s primary packaging may not always be suitable as the only packaging for shipment, so shippers like Ingram Micro use “secondary packaging” for further protection. We use a variety of materials for secondary packaging, primarily corrugated cardboard, mixed-material packaging, such as bubble-lined poly mailers, void fill, label materials, pallets, tape, edge and corner protectors, poly straps and stretch wrap. As of 2021, 86% of our tracked shipping cardboard contains recycled materials.

Although much of this secondary packaging is recycled, the use of these materials does have an environmental impact, and as such we are constantly looking at ways to reduce that impact.

## Our Strategy

Each time a product moves from one location to another, secondary packaging is frequently needed to protect the product when in transit. In addition to implementing strategies to reduce the use of excess packaging materials, we are also looking at ways to reduce the total number of trips a product must take to reach the customer and to improve how orders are packaged for distribution.



## Drop Shipping

One way we are working to move product more efficiently is by continuing to grow our drop ship service. As a drop ship supplier, we work with our vendors and e-commerce retailers to fulfill orders placed on their e-commerce

websites and ship products directly to the customer, eliminating the need for products to travel between manufacturers or suppliers and the retailer. Not only does this cut down on excess product movement, which results in transportation-related carbon emissions, it also reduces the amount of secondary packaging needed to deliver the product to the end customer.

## Adopting Right-Sizing Solutions

It is also important to reduce the amount of packaging used for each shipment. We are continuously looking for innovative ways to minimize the amount of secondary packaging needed to ensure a damage-free delivery.

We have adopted right-sizing solutions in our facilities to help us identify the appropriate packaging for the products we ship, with a clear objective of reducing the amount of packaging materials needed, which minimizes the environmental impact. Products that are eligible to be shipped in original vendor packaging are transported without additional secondary packaging. Our packaging algorithm also consolidates products within an order to the minimum amount of packaging required—not only reducing the packaging material but also reducing the number of cartons required to fulfill an order.

Several of our facilities are also equipped with Packsize® packaging equipment, on-demand packaging technology that provides customized cartons sized to fit the specific product or order. This technology reduces the use of void fill materials, such as air pillows, by right-sizing the overall dimensions of the package. Our facility in Fort Worth, Texas now requires 50% less void fill than other



facilities in our network as a result of this solution. In 2021, we increased our investment in this technology and now leverage this in all our North American facilities, with plans to implement additional Packsize® packaging equipment globally in 2022.

Our utilization of right-sizing solutions and packaging prioritization has helped minimize our material use and packaging waste. By reducing package dimensions, we are also able to utilize space on pallets and in freight vehicles more efficiently, thus reducing our overall need for product transportation and its associated environmental impacts.

## Investing in Advanced Inventory Planning Tools

Our advanced inventory planning tools help us optimize inventory planning and purchasing, which enables us to place more case pack and pallet orders with our vendors. These optimizations have also provided us with the capabilities to ship applicable customer orders in case packs and on pallets, helping reduce the amount of secondary packaging needed during shipment.

Currently, our U.S. and Canadian facilities have advanced inventory planning capabilities. We plan to scale implementation of these tools globally.

## Increasing Our Use of Recycled Content and Renewable Materials

In addition to reducing our need for secondary packaging materials, we continuously work to improve the composition of our packaging materials, focusing on the use of more post-consumer recycled (PCR) and postindustrial recycled (PIR) content and renewable inputs.

Our facilities currently track and report the weight of cardboard used, including the percentage of shipping cardboard with recycled content. As of 2021, 86% of our tracked shipping cardboard contains recycled materials.

## Sourcing Alternate Packaging Materials

We are fully committed to increasing the amount of packaging that comes from sustainable materials and working closely with our packaging vendors to identify and procure the solutions required to accelerate our progress. Our goal is to set meaningful targets related to other packaging materials used in our operations. We are working toward tracking the consumption of void fill and resin- and polymer-based products used in the preparation of shipments, such as stretch wrap, tape, edge and corner protectors, label materials, poly straps and mixed-material packaging (e.g., bubble-lined poly mailers).

We are also looking for more environmentally responsible options to ship our products in. The solution oftentimes involves sourcing alternate materials that can be reused or more easily recycled or composted by the end customer, including curbside recycling and composting (where available). When considering alternate packaging materials, we look at the carbon impact of the shipping materials (e.g., recycled content, recyclability), as well as the ability of the materials to protect the product during transit. Extensive research and testing are completed at our warehouse facilities when considering alternate packaging materials to ensure both quality and environmental responsibility standards.

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