

**Global Food Industry
Trend Report**



A Century of Resilience

The Impact of Regulation, Sustainability, and E-Commerce

Winter 2020/2021

Introduction

The global food industry is, above all, resilient. The durability of the entire supply chain rests on its ability to continuously innovate and adapt. The system's resilience is built upon its agility to meet new regulations, adapting to accelerating sustainability requirements, and addressing new consumer-driven demands that are transforming how and where food is delivered.

In 2020, the global food and grocery retail market size reached \$12.24 trillion (Grand View Research), comprising nearly 10% of U.S. GDP (The Conference Board), and representing the largest manufacturing segment in the entire EU (Interreg Europe). Its rapid growth in the Asia-Pacific region is driven by the explosion in newly middle-class consumers, expected to reach 550 million individuals by 2022 (CNBC).



It's a complex business, with the supply chain comprising farmers and producers, processors and packagers, warehouses and distributors, and retailers and consumers. Protective transit packaging helps support this supply chain and is estimated to reach \$139 billion in annual sales by 2022, up from \$112.3 billion in 2016 (Smithers). It provides the essential protective packaging infrastructure and protective products that are needed to efficiently and reliably deliver food to consumers during both normal and challenging times.

Everyday consumers rarely consider how their food ends up neatly arranged on retail store shelves, in restaurant kitchens, and, increasingly with the rise in food delivery, boxed up and awaiting them on their doorsteps. While temporary inconveniences occasionally give pause, such as the recent romaine lettuce recalls due to *E. coli* contamination, in most industrialized countries people often don't think about the food supply chain because they don't need to. We all need to eat and assume the food will always be available.

Except when it's not. Or fear that it won't be. As of this publication date [February 2021] consumers are confronting the impact that global disruptions such as COVID-19 can have on our expectations of what normal is. The global pandemic has brought to public awareness the usually "hidden" complex supply chain that encompasses the entirety of the food industry. The empty store shelves experienced at times were far from reassuring. As those challenges were overcome, the public had a glimpse of how resilient the food chain must be to continue feeding millions even during times of great adversity.

How we eat, where we eat, and what we eat has changed over the years. It's these decades of evolving consumer behavior — aligned with retail and regulatory trends — that has built the resilient system upon which we depend.



"Law and Order" Adapting to the Ever-Evolving Regulatory Environment

The entire supply chain is built to foster public confidence in the safety and security of the food supply. Both government regulation and industry self-regulation, have impacted crucial safety protocols. The food industry is subject to a complex web of laws and self-imposed regulations in each region of the world.

It has been 115 years since the publication of *The Jungle*, Upton Sinclair's best-selling novel that exposed the harsh conditions within Chicago's meatpacking industry. In doing so, it brought to light the unsafe and unsanitary practices within the United States' food supply. The novel's impact on public opinion and elected officials led to landmark passage of the Pure Food and Drug and Meat Inspection acts in 1906.

Since then, the legislative and regulatory apparatus has mushroomed. According to the U.S. Food and Drug Administration, more than 3,000 state, local, and tribal agencies "have primary responsibility to regulate the retail food and foodservice industries in the United States" with 15 federal agencies administering no fewer than 30 laws related to food safety.

Likewise in Europe, what began as a patchwork of country-by-country rules and regulations has grown dramatically driven by the 1957 founding of the Common Market (officially the European Economic Community or EEC) and the European Union in 1993. The central goal of the food safety policy, in the words of the European Commission, "is to ensure a high level of protection of human health regarding the food industry...apply[ing] an integrated approach from farm to fork covering all sectors of the food chain."

Today's resilient food-supply is based, in large part, on how food industries have continued to advance process, material, and shipping innovations to meet and exceed the growing body of regulation. The regulations go beyond food production, spanning the entire supply chain. For instance, a current focus in the EU is the safety of delivery drivers, which is directly reflected in EU Road Worthiness Directive 2014-47-EU.

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Transit packaging specialists have played a key role in addressing these regulations. For example, their optimized palletization techniques and containment materials have helped meet guidelines centered on load stability. A new area in ensuring safety and compliance is the expert

evaluation and testing of correct pallet-wrapping or strapping. Certified testing equipment, such as drop testing and vibration testing that are utilized by transit packaging specialists, can demonstrate how to best achieve proper load containment through a variety of advanced methods and materials.

Innovations of this type aren't driven alone from government regulations, they also come from the industry itself. The European Safe Logistics Association (or EUMOS, as in **EU**rope **MO**ves **S**afely), is an 80-plus member organization comprised of leading global supply chain providers. The nonprofit is devoted to improving safety throughout the logistics chain. Another example is the International Safe Transit Association (ISTA). The nonprofit organization, founded in 1948, is the self-described "leading industry developer of testing protocols and design standards that define how packages should perform to ensure protection of their contents during the ever-changing risks of the global distribution environment." The most advanced transit packaging experts possess in-house testing capabilities certified by ISTA that enable CPGs to test new and improved dunnage, banding, and strapping improvements to ensure compliance from original point of delivery.

"In Like a Lamb and Out Like a Lion" Growing Focus on Sustainability

Any perusal of company websites, conference and trade show panels, trade media articles, product launches, and splashy sustainability reports might lead one to think we are at "Peak Sustainability." In reality, the food industry and their transit packaging supply chain partners are at the early stages of this journey. This may sound surprising given the level of interest in sustainability from both consumers and brands as well as the many

innovations that have already been introduced. Still, the intersection between sustainability and innovation offers unlimited opportunities for companies to meet and exceed the sustainability needs of their customers through strategic, ROI-friendly investments.



Transit packaging specialists are increasingly focused on the use of recycled and recyclable consumables — be it strapping, stretch film, or protective packaging materials — and equipment innovations that require reduced energy usage and the more efficient use of consumables. Taking a five-year horizon, one leading industry analyst recently opined in *The Future of Protective and Transit Packaging to 2022* that transit packaging companies will be challenged with creating:

- Innovative "greener" protective transit packaging products and systems that take advantage of environmentally friendly raw materials and encourage the recycling of waste transit packaging materials
- "Closed-loop" logistics management systems to facilitate the efficient recovery and reuse of packaging components such as pallets and drums

- More extensive use of recovery and recycle systems of the sort that have been successful in corrugated carton markets
- Reducing the amount, weight, and volume of transit packaging material, therefore reducing transportation fuel consumption.

A crucial fifth element could be added to this list: Reduction of food waste at the pre-retail and pre-consumer level.

A 2020 peer-reviewed report by the U.S. Department of Agriculture (*Economic Drivers of Food Loss at the Farm and Pre-Retail Sectors: A Look at the Produce Supply Chain in the United States*) estimated the value of uneaten food at the retail and consumer levels at nearly \$161.6 billion annually. The report notes that this “represents losses of 31% of food produced in the United States: 133 billion pounds out of 430 billion pounds. The Food and Agriculture Organization of the United Nations (FAO) estimates that 1.3 billion metric tons (2,866 billion pounds) of food worldwide are produced and not consumed each year, representing approximately one-third of total food production by volume (FAO, 2011).”

Among many suggested remedies, the USDA concludes that there is a pressing need for “new technologies for preserving the quality of produce while in distribution.” With the increasing focus on food loss, the market is continuing to demand higher packaging standards.



In order to eliminate the risk of mold and related food safety hazards, several agriculture processing companies and growers are looking for solutions in which their produce boxes can be wrapped in stretch bags to limit condensation ahead of picking and packing.

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Sustainability improvements, from food waste reduction to increased use of recycled materials, place transit packaging specialists in a unique space. They need to be adapting and developing to meet the needs of sustainability-driven changes made by CPGs *while concurrently* designing and producing their own sustainability-advantaged materials and processes that position them to compete effectively. Key areas include the assessment and reduction of transport damages and their environmental impact, refined wrapping and stretching technologies to adapt to material shifts in primary-packaging, enhanced recyclability needs, and advanced substrates that help to reduce food waste.

Financial markets are taking notice. The growing importance of ESG (Environmental, Social, and Governance) mutual funds underscores the significance, and proves the benefits of sustainability advancements. As *Bloomberg News* headlined in January 2020, “nine of the biggest

ESG mutual funds in the U.S. outperformed the Standard & Poor's 500 Index last year, and seven of them beat their market benchmarks over the past five years." Bank of America noted that "money keeps flowing into ESG funds" and Barclays provided guidance that investor use of ESGs will accelerate in the post-pandemic era, as ESG companies provide investment opportunities for those looking at companies focused on long-term value delivery and sustainable operations. (*Christian Science Monitor*, April 2020).

"Click Here to Proceed to Checkout" Impacts of New Retailing Models

The explosive growth of E-commerce presents challenges and opportunities as manufacturers, retailers and distributors invest to meet its unique transit-packaging demands. It's been well-reported that COVID-19 dramatically increased the already robust 15% year-over-year sales growth in the space.

Amazon's recent call for an additional 100,000 employees in North America alone (to augment its nearly 250,000 current staffers) is just the most recent illustration of the unrelenting rate of growth. According to an April 2020 article in *The Atlantic*, Bryan Leach, the CEO of the digital-shopping-promotions company Ibotta, predicted that online grocery shopping will rise from 3% "into the double-digits" as a result of the pandemic. *The Atlantic's* reporting provided a robust round-up of the first reliable numbers:

Before COVID-19, Instacart, the biggest independent grocery-delivery service, had guessed that 20 percent of U.S. households would be shopping for groceries online in the next five years, a spokesperson for the company told me. But over the past month, "everything changed." Its order volume is up 150 percent.

New downloads of its app have multiplied sevenfold. In response, Instacart set out to hire 300,000 new "personal shoppers," its name for the gig workers who pick and deliver groceries.

An awkward luxury service just a few months ago, supermarket delivery has been forced into the mainstream so fast that stores and services are struggling to respond. Like Instacart, Amazon (which owns Whole Foods) can't keep up with demand; according to one account, its grocery orders have risen 50-fold since the lockdowns began. The company is hiring 175,000 new delivery and operations personnel.



Turning back to *The Future of Protective and Transit Packaging to 2022*, among 28 EU countries, around 8% of consumer purchases in 2016 were via E-commerce channels, with the UK clocking in at 15%. The authors forecast an increasing demand for packaging due to the space's "pick-and-pack" methodology, increased shipping

and handling costs, and distribution channel inefficiencies resulting from “orders [that] are commonly packed in larger-than-necessary cartons and stuffed with bubble wrap or loose-fill packing. This non-optimum secondary packaging leads to non-optimum unitised loads. As a result, shippers and consumers sustain extra costs in the transportation and logistics system.”

Given both the explosive growth of e-commerce and the ensuing packaging challenges, there are significant opportunities to design and develop new dunnage and structural material advancements in customizable configurations to reduce costs and inefficiencies.

While E-commerce skyrockets, in-person shopping will continue at some level. Display pallets to meet needs in grocery and warehouse stores are also driving new transit packaging solutions. The impacts of smaller pallets require an in-depth analysis of how these goods are prepared, choices in strapping or stretch wrapping, dunnage, slip sheets, corner protection, and other structural foundation materials for unitized good shipping and display.



Whether the destination is a home via E-commerce or a brick-and-mortar store, the journey will likely be made through a regional distribution center or warehouse facility, increasingly located in urban areas. Commonplace in the EU, these compact footprint and multi-story facilities are sprouting up across the U.S. and centered on major metropolitan areas. This is a significant change from the legacy facilities located in suburban and exurban areas, where land is plentiful and relatively inexpensive. This shift to more urban locations is driving more vertical vs. horizontal structures and contributing to the development of integrated warehouse management and automated storage and retrieval systems.

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Another factor in this shift is warehouse and distribution specialists are looking for systems that will accelerate throughput with fewer staffers. In March 2020, the Brookings Institution explored the connection between recessions and automation. Its report concluded that the automation potential within transport and warehousing is 58%. “Automation happens in bursts, concentrated especially in bad times such as in the wake of economic shocks,” the report notes. “At these moments, employers shed less-skilled workers and replace them with technology and higher-skilled workers, which increases labor productivity as a recession tapers off.”

Conclusion

Resilience is built into the entirety of the global food industry. More than 100 years of ongoing innovation underscore its adaptability to deliver more products in more ways to more consumers across the world.

The combination of a robust regulatory framework, sustainability challenges, and the rapidly accelerating E-commerce landscape present challenges and opportunities for transit packaging specialists.

The ongoing development of new technologies, materials, and processes will continue to provide a resilience to the supply chain, enabling the safe, efficient, and productive packing, bundling, unitizing, warehousing, and transporting of food across the world.

The transit packaging specialists at Signode have more than 100 years of technical, engineering, and material interaction experience that continues to meet the evolving needs of companies across the world. Dedicated to end-to-end transport excellence, our global business continuously innovates with our partner-companies to achieve optimized and customized transit packaging solutions.

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