



Liviri

Carrying the Cold Chain

PART 1: Thinking Inside the Box

The current climate is forcing manufacturers to explore every angle and find innovative solutions. Using more sustainable options is one of those factors that consumers and companies can agree on.

WHETHER YOU'RE SHIPPING ACROSS TOWN OR ACROSS THE globe ... whether you're transporting temperature-sensitive medication, chilled groceries or delicate wine, the goal remains the same: protecting the integrity of the shipment and delivering it on time.

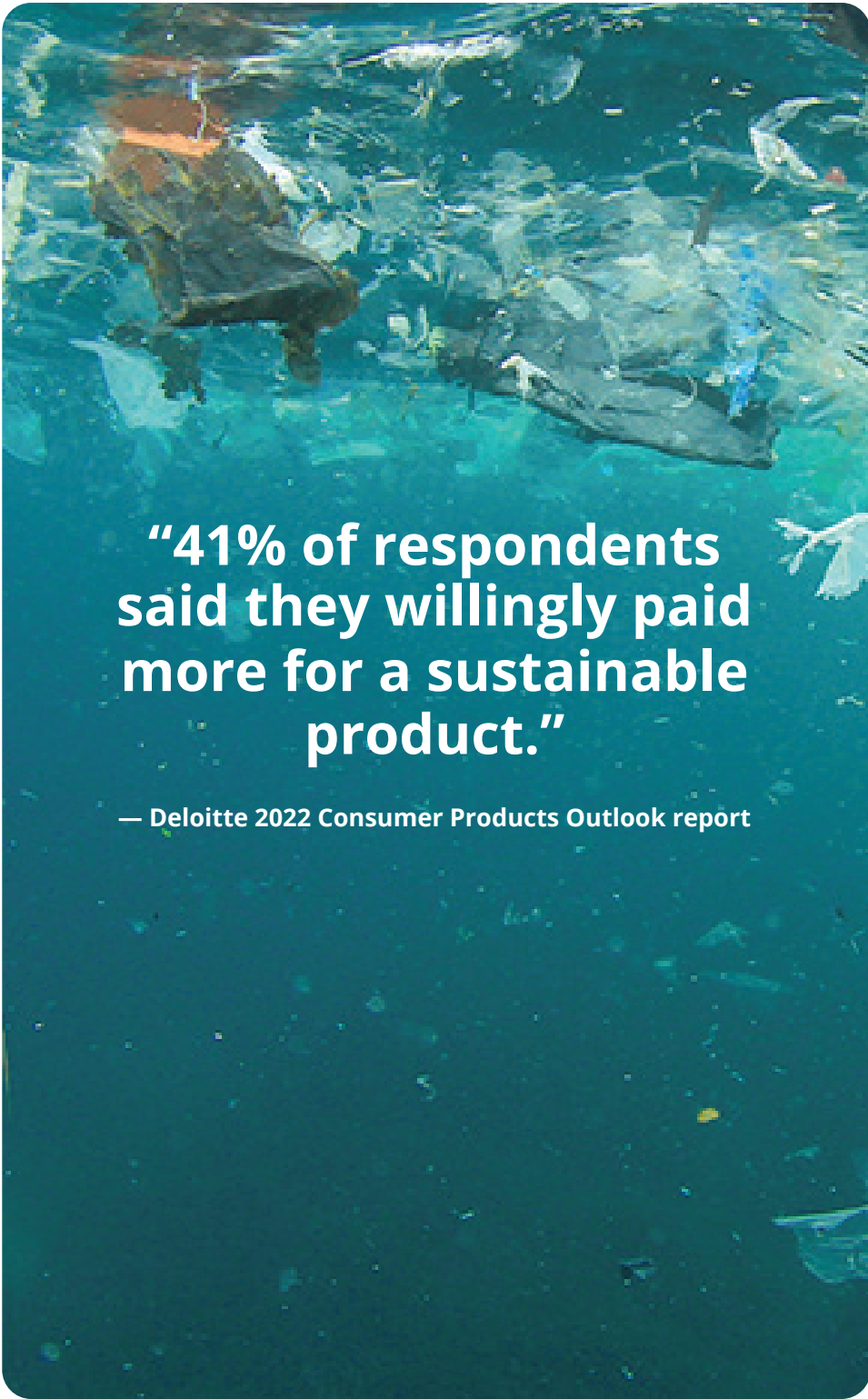
Achieving that goal in a constantly shifting landscape is proving more difficult. This 4-part series explores the unique challenges, and possibilities, for the future of cold chain shipping.

Unpredictability is the norm in this post-pandemic delivery world. **Processes that used to take days now take weeks or months**, depending on weather, materials, transportation and a host of other factors both within and outside of our control. **Planning has become an exercise in risk management**, with businesses sourcing several options for things like product packaging and shipping. Covering your bases now requires a lot more coverage.

Global delays in the supply chain are affecting every industry, at every stage of the shipping process. From interruptions in sourcing materials like glass and cork for wine bottles, to shipments sitting in ports for weeks leading to temperature-regulating concerns, to truck driver shortages limiting last-mile delivery, slower shipments and rising costs are forcing businesses to reconsider every aspect of their delivery process.

CONSTRAINED BY EVER-CHANGING REGULATIONS, BUSINESSES are taking a proactive approach to exploring these options. While regulations evolve, much of the movement toward more sustainable packaging is being initiated by forward-looking companies, responding to the demands of their environmentally savvy customer bases.

Consumers are demanding less virgin plastic use and more recyclable or reusable options, and they're backing up those demands with their dollars. According to Deloitte's 2022 Consumer Products Outlook report, "41% of respondents said they willingly paid more for a sustainable product." Coca-Cola is one of the larger companies exploring environmentally-friendly alternatives, having developed a bottle made from 100% plant-based plastic. Biodegradable and compostable options offer additional ways to upcycle plastic and lessen the impact on the environment.

An underwater photograph showing a large amount of plastic waste, including bags and bottles, floating in clear blue water. The scene is dimly lit, with light filtering down from the surface, creating a somber and environmental atmosphere.

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product."**

— Deloitte 2022 Consumer Products Outlook report



REUSABLE PACKAGING IS ALSO BECOMING MORE ATTRACTIVE as a cost-effective, sustainable alternative. Reusability offers benefits including eliminating dependence on (and waste from) single-use packaging. Additionally, “reusing packaging in Business-to-Business (B2B) can result in significant long-term cost savings.” For example, Ghirardelli Chocolates replaced cardboard boxes with reusable totes and, projecting a 5-year life for the totes, anticipates a savings of up to \$2 million in waste management.

Another important piece of the sustainability puzzle is the push to reduce carbon emissions from last-mile deliveries. According to a study by the World Economic Forum, the number of delivery vehicles in the top 100 cities is projected to rise by 36%, leading to a 30% increase in emissions by 2030. Instead of using energy-hungry refrigerated trucks for temperature-sensitive deliveries, thermally performant packaging keeps perishables at safe temperatures, allowing companies to switch to more fuel-efficient vehicle fleets.

Delivery vehicle carbon emissions (projected)



Companies like Liviri are leading the way in reusable packaging innovations, with extensive thermal testing and cross-functional customer support. From product packaging to shipping, it's clear that the future is already in our hands, literally, as reusable resources become increasingly crucial to the bottom line.

WHILE EVERY INDUSTRY HAS UNIQUE CHALLENGES, THE BROADER issues are largely shared. Temperature control is paramount for maintaining the integrity of life science shipments, food safety and fine wines. Time spent in transit can destroy a product if it's not properly insulated against temperature and vibration. But providing that protection has gotten more expensive as the variables have become more unpredictable.

So how are businesses tackling these challenges? In this series of articles, we'll explore issues facing three distinct industries, profiling leaders and spotlighting innovative solutions. We get the scoop on safe, sustainable store-to-door grocery delivery. We explore innovative shipping solutions in the multi-billion-dollar bio-pharma space. And finally, the Reusable Packaging Association gives us a taste of their favorite wine packaging trends and top performers.

No matter what's inside your box, the new reality of cold chain shipping has far-reaching impacts for every business. Liviri is dedicated to moving the conversation forward.

“Reusing packaging in Business-to-Business (B2B) can result in significant long-term cost savings.”



LIST OF SOURCES

“However, 41% of respondents said they willingly paid more for a sustainable product.”
<https://www2.deloitte.com/us/en/pages/consulting/articles/consumer-products-and-sustainability-innovation.html>

“Reusing packaging in Business-to-Business (B2B) can result in significant long-term cost savings.”
<https://www.sciencedirect.com/science/article/pii/S2590289X20300086>

“For example, Ghirardelli Chocolates from California (United States) has introduced reusable totes to replace cardboard boxes for Internal distribution. Assuming a 5-year life of the totes, the company expects to save up to \$2 Million, due to reduced waste management costs (Stopwaste, 2005).”
<https://www.sciencedirect.com/science/article/pii/S2590289X20300086>

“A study published by the World Economic Forum (WEF) found that the growth in last-mile deliveries over the next decade will lead to slower transits and higher emissions in major cities across the world. The report forecasts a 36% rise in the number of delivery vehicles in the world’s top 100 cities by 2030, leading to an emissions increase of over 30%.”
<https://www.freightwaves.com/news/todays-pickup-last-mile-delivery-growth-will-increase-carbon-emissions-by-30-by-2030#:~:text=NewsToday's%20Pickup-,Today's%20Pickup%3A%20Last%2Dm-ile%20delivery%20growth%20will%20increase%20carbon,emissions%20by%2030%25%20by%202030&text=Good%20day%2C,major%20cities%20across%20the%20world.>