

Navigating the Path to Circular Fashion: Avery Dennison's Digital Labeling Solutions



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1. Could you elaborate more on the current state of garment circularity and what steps Avery Dennison is taking towards promoting this concept?

Garment circularity is in its infancy. Each year an estimated 100 billion garments are produced, of which 92 million tons end up in landfill. According to the [Ellen MacArthur Foundation](https://ellenmacarthurfoundation.org/)¹, only 1% are recycled into high quality new materials.

Avery Dennison is helping the industry achieve a closed-loop system through our digital labeling solutions. We believe that every garment will be assigned a digital id. And by connecting that digital id to our connected product cloud, atma.io, we can assign specific data to that garment and record its history, ultimately using that information to drive a circular system, whether that be resale, recycling, etc.

Full fashion circularity would mean far fewer garments going to landfill or being incinerated as happens today. Instead, clothes would be resold on a mass scale, and textiles endlessly recycled and made into new garments. To do this at scale we need to collaborate far more within the apparel industry so that data transparency is achieved. With wide scale use of digital labels and digital product passport (DPP)

¹ <https://ellenmacarthurfoundation.org/>

technology, combined with proper investment in global recycling facilities, we can pave the way to true circularity.

Because legislation is planned in the EU and North America (to force the fashion industry to be more open about how clothes are made) textile suppliers around the world are collaborating more closely with their retail clients to share product data. This will give fashion shoppers and the textile recycling industry the necessary means of extending the useful life of clothes, and engaging with circularity.

We actively engage at events and with government bodies, demonstrate at exhibitions, promote our digital label technology in the industry, and collaborate with industry bodies like CIRPASS and the American Apparel and Footwear Association to shout about transparency and circularity. But we go beyond “talk”; we’ve built the technology. So, our message is simple: We have the technology – in the form of digitized garment labels – to change fashion for the better.

The world is changing, and as an industry, we need to change with it. Avery Dennison intends to be part of leading that change.

2 What are some specific examples of how digitization of the supply chain has improved efficiency and transparency at Avery Dennison?

Like most companies, Avery Dennison is on a digital journey. We have digitized parts of our own supply chain, which is helping to improve our customer experience while also reducing our carbon footprint.

We report progress and have had our targets independently verified. The Science Based Targets Initiative² (SBTi) provides a common framework for companies to set science-based targets, and reduce the fashion industry’s emissions footprint. Avery Dennison has joined this initiative, alongside many apparel brands and their suppliers, who can now be held accountable, reporting emissions, and tracking progress annually.

We deliver innovations that help our fashion clients operate more efficiently and transparently. Digitizing the supply chain, from cradle to grave, is a hot topic in the fashion industry, and most brands are well advanced on the journey because there are so many benefits. Having a Digital ID (connected to data stored in the cloud) on every garment enables consumer engagement, traceability, and transparency, omnichannel cross-communication, brand protection, circular models such as resale, and more.

Avery Dennison supplies this technology already, and is partnering with Accelerating Circularity, Circ and TexAid on large scale pilots to demonstrate how Digital Label technology has the power to enable the circular economy.

² <https://sciencebasedtargets.org/sectors/apparel-and-footwear>

The technology for DPPs on garments is here now, so we can help our clients apply it to garments today. Avery Dennison's [atma.io connected product cloud](#)³ platform unlocks the power of connected garments, and has just been updated with new ChatGPT and AI features.

3 How do you see the role of technology evolving in managing and reducing supply chain waste?

Over-production is a massive problem in manufacturing industries. Our 2022 report [The Missing Billions](#)^[1] highlighted the fact that \$163 billion worth of inventory – across automotive, food, apparel, beauty, personal care and pharmaceutical - is discarded each year due to expiry or overproduction. That's 8% of stock ending up as waste.

Smarter manufacturing processes and supply chain management will be vital in the years ahead to improve forecasting accuracy and eliminate unnecessary textile waste. Crucial to this is RFID technology, which helps eliminate waste across the supply chain through better inventory visibility.

Manufacturers can reduce overstocks through RFID or digital tracking of products to ensure stores only receive what is needed, according to the Just in Time model. For apparel businesses, using RFID to identify exactly where stock is in the supply chain helps optimise distribution and shipping. RFID can also be used for reducing expired and obsolete products.

According to research by Auburn University^[2], apparel retailers without RFID had 65% inventory accuracy, while with RFID, the rate improves up to 99%. Denim brand Levi's^[3] has reported success with RFID tagged garments in recent years. [1] [AC2]

[1] <https://rfid.averydennison.com/en/home/news-insights/press-releases/supply-chain-crisis-made-worse-as-8-percent-of-stock-ends-up-as-waste.html>

[2] <https://rfilea.co.za/staying-ahead-of-the-trend-with-rfid-and-digital-id/>

[3] <https://rfid.averydennison.com/en/home/news-insights/case-studies/rfid-case-study-apparel-success-story-continued-levis-to-equip-3000-stores-with-rfid-technology-by-avery-dennison.html>

³ <https://www.atma.io/>

4 Can you share more about the innovative factory solutions Avery Dennison is currently working on, especially regarding RFID scan/pack solutions?

Avery Dennison's RFID scan/pack solutions have been designed to extract additional value from item-level RFID tagging. Our technology, which includes labels, hardware and software, and is installed in garment manufacturers and distribution facilities, digitizes and automates the final steps in the manufacturing supply chain. It improves the accuracy of shipments, automates the documentation process, and reduces labor, warehousing and inventory costs. And with improved visibility of inventory, it also increases the opportunity for cross-docking and direct shipments.

5 How does Avery Dennison plan to address the opportunities for capturing data within the supply chain?

As a leading supplier of labels, packaging and supply chain technology solutions to the fashion industry, Avery Dennison is actively involved in lobbying for digital care labels in garments.

Our tech solutions to do this are market-ready. Our R&D investments and innovations are already helping fashion brands and their suppliers become more transparent and able to trace raw materials, so that vital product information can be shared with regulators, consumers, and recyclers.

6 How does Avery Dennison envision the textile industry in the future, particularly with respect to sustainability and circularity?

We envisage a textile industry dominated by recycled, recyclable and renewable materials. Textile waste in manufacturing will have been greatly reduced thanks to wide adoption of RFID technology in the supply chain, and smarter manufacturing, with the use of AI-enhanced data analytics.

We believe consumers are ready to play their part in extending the life cycle of garments, and thoughtfully recycling their unwanted clothes in the correct ways, based on what a DPP tells them to do. Textile-to-textile recycling centres will become a vital part of national infrastructure.

There will need to be a global switch in consumer behaviors to have enough of an impact to achieve a 1.5C future, in line with the Paris Agreement.

Avery Dennison and GWI's *Digital Consumer Behaviour Report 2023*⁴ (for which 6,300 global clothing shoppers surveyed) found that 60% of fashion shoppers globally already see the value in scanning a QR code on a garment with their smartphone to understand provenance and proper care; 71% of respondents globally state fashion brands being transparent about their manufacturing practices is important to them.

⁴ <https://explore.averydennison.com/gwi-report-2023/p/1>

We know that having item-level lifecycle data readily available within DPPs for apparel products will completely transform a fashion brand's supply chain visibility. It will help shoppers make the right decisions when shopping. It will give recyclers the vital data they need to get their important processing done.

7 What are some challenges you anticipate in the push towards a more sustainable future in the textile industry?

1. Partnership across the supply chain - No single organization can solve the challenges and opportunities that sustainability presents. The industry needs to find new partners and partnership models to address these challenges holistically.
2. Global problem - Currently one criticism about fashion's plans for a sustainable future is that the long journey to circularity is only of interest to rich, industrialized economies. However, this is a global business and environmental challenge, and if we are to meet the targets set out in the Paris Agreement, the industry will need models that are attractive to all tiers of the economic pyramid.
3. Consumer education - Changing consumer behavior is critical to sustainable change, but is a lengthy process. Marketing departments must work closely with supply chain operations to align on powerful messaging targeted at consumers of all ages. DPPs accessed via scannable QR codes will be key to this storytelling.
4. Data access and use - The accessibility and quality of data across the supply chain continues to improve, but there are still gaps, particularly when it comes to end-to-end visibility. Our atma.io cloud-based, digital ID platform is designed to help address those gaps, but providing a single platform to assign transaction information/data from every step in the supply chain to the final item that is manufactured.