

Digital Product Passports: Track and Trace Everything, at Any Time, All at Once



It's expected that fashion and textile businesses will need to publish digital product passport (DPPs) data by **2027** or early in **2028**, with more comprehensive DPP versions planned for later years. DPPs are electronic records containing comprehensive data including information on raw material sourcing, manufacturing processes, supply chain details, sustainability credentials, environmental impact, care instructions, and end-of-life options. DPPs prevent counterfeiting, help consumers make more sustainable choices, and promote product circularity with the goal of reducing new material extraction. While the requirements seem demanding, integrated technology eases the creation and management of DPPs. Here's how.

Product Identifiers

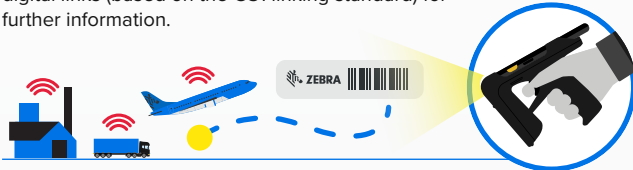
Items have a unique ID created, likely to be based on the standardized GS1 global trade identification (GTIN) product identifier.

The identifier, along with serial and batch numbers, can be encoded into GS1 formats for RFID, NFC and QR codes. With RFID widely used in fashion, it's expected to become the main mechanism to access DPP data for business stakeholders. Robust, washable RFID threads can be woven into clothing to ensure data can be read across a product's lifecycle.



Partner and Stakeholder DPP Interaction

Partners and officials including manufacturers, supply chain parties, regulators and customs teams, repairers and recyclers will need to access, and in some cases, update, DPP data. By scanning RFID tags they can view DPPs and, with appropriate user authentication, make updates, while also having the option to open digital links (based on the GS1 linking standard) for further information.



Streamlining Operations – DPP and Workflows

Deploying the technology to support DPPs also opens up opportunities to streamline other retail operations.

With RFID as the digital identifier, RFID labels can be added to pallets and containers to accelerate data capture and accuracy across supply chains and into stores.

On the retail floor, RFID makes life simpler too. Multiple item scanning for faster checkouts and near-perfect stock visibility means it's easier to find items while reducing shrinkage and improving demand forecasting.

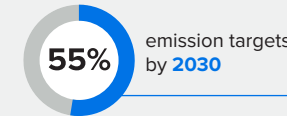


The Core DPP Database

Zebra and our trusted partners create robust DPP solutions, built around a central database which securely houses DPP data. Much of the required DPP information already exists in enterprise resource planning (ERP) and product lifecycle management (PLM) systems, for example – and this data feeds into the DPP database via application programming interfaces.



Digital Product Passports are Central to the EU's Ambitious Green Deal Targets

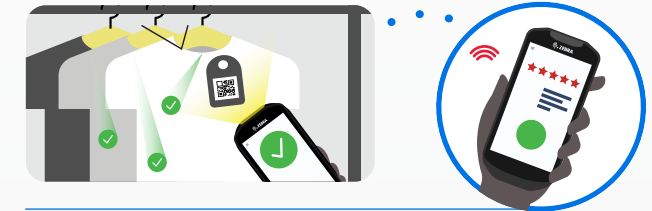


Complete visibility can revolutionize business operations by enabling real-time, data-driven decision-making.

DPP Access for Shoppers

With a QR or NFC scan, shoppers access DPPs when buying products to make sustainable buying decisions. Post-purchase, a 'scan once' solution can be offered with digital links to the DPP stored in the shoppers' smartphone wallet connecting them to all data, warranty and recycling information, and more.

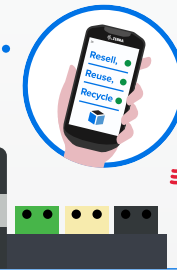
Shoppers can also create a digital token using blockchain providers to verify item ownership.



End of Life Management

When their items have reached end of life, shoppers can view reuse, resell, and recycle options.

Recycling providers can check a DPP to understand what materials an item comprises, with links and explanations of how these can be reclaimed.



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