

Michael Ziegler

Communications

T +49 2241 481-523

michael.ziegler@r-cycle.org

PRESS RELEASE

Traceability along the entire value chain – taking the example of Henkel

Digital Product Passport: Rethinking transparency and sustainability in circular packaging

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The packaging industry is facing a dual challenge, with consumers demanding sustainable solutions, while increasingly stringent regulations require greater resource efficiency in production. How can companies fulfill these expectations and, at the same time, ensure transparency along the entire supply chain? The Digital Product Passport (DPP) could be the answer. How does it work in practice, and what opportunities does it bring to the industry? In a joint project with the open traceability and DPP platform R-Cycle and the flexible packaging converter Korozo Group, Henkel has demonstrated the benefits that can be achieved.

The pressure to develop environmentally compatible and resource-efficient packaging has increased tangibly. At the same time, global supply chains require greater transparency along the value chain in order to ensure that the origin of the materials, their processing and the end of the life cycle are traceable.

One key trend in the packaging industry is the shift toward a circular economy. The goal is not only to make packaging more efficient but also to return it to the production cycle at the end of its life. For this to happen, the materials need to be recyclable and the raw materials used need to be derived from sustainable sources wherever possible. In addition, there need to be clear rules for disposal. Digital solutions are becoming increasingly important in the efforts to satisfy these requirements.

The Digital Product Passport drives transparency

Against this backdrop, focus is turning to the Digital Product Passport (DPP). This is a key instrument in creating a digital record of the necessary information about the composition, life cycle and sustainability aspects of a product and making this information accessible. Driven by regulatory requirements such as the European Union's Ecodesign for Sustainable Products Regulation (ESPR), the DPP will become mandatory in many industries from 2027.

The digital data set contains information such as the material composition, technical specifications and recyclability of a product. Each product is allocated a unique identifier, accessible via a suitable marking, such as a QR code or RFID tag, to facilitate its traceability along the value chain. The quality of the assigned data recorded is crucial here. Companies along the value chain need to provide the relevant information, which is prepared in a standardized format and made accessible to all stakeholders.

More recycling in the packaging industry?

In the packaging industry especially, the DPP not only satisfies regulatory requirements but also significantly improves the sustainability of packaging. "The DPP enables the seamless traceability of packaging along the supply chain, creates transparency and facilitates legal compliance," says Philippe Blank, Head of Circular Economy at Henkel.

A functioning circular economy requires recyclable and ideally a high proportion of recycled raw materials to be already integrated into the procurement phase; these are then transferred to a design which takes into account various end-of-life scenarios. The goal is to recover materials for use in place of virgin material. "Reducing the use of raw materials and minimizing the resources needed are crucial for ensuring a sustainable future," explains Philippe Blank at Henkel. Detailed material data simplify sorting and recycling, helping to preserve resources and increase the recycling rate.

Spotlight on adhesives: Henkel is testing the DPP in practice

In a joint project with Koroza Group, a flexible packaging converter, and R-Cycle, a platform based on open standards for the operation of digital product passports to ensure the traceability of packaging, Henkel decided to actively test and implement the DPP as part of its continuing commitment to make every package sustainable. The Loctite Liofol solvent free adhesive developed by Henkel is used to reliably laminate stand-up pouches. It is characterized by its chemical and thermal resistance, making it suitable for aggressive filling goods, pasteurization and high-speed packaging lines with a high seal temperature.

This example, trialed in a Henkel Consumer Brands finished good, shows what the DPP looks like in practice. Each package produced with Loctite Liofol is given a QR code that is linked with the R-Cycle DPP. This ensures that technical data, safety information and environmental aspects can be accessed directly. Henkel is working with R-Cycle to extend this traceability, thus optimizing the disposal and recyclability of the product as well.

Dr. Benedikt Brenken, Director R-Cycle, explains: “The application with Henkel shows very well how relevant information on the packaging components used - in this case the adhesive – can be recorded in the DPP and made available throughout the entire product life cycle. In this way, we create a defined level of transparency and easy traceability along the value chain. We see this as a decisive advantage regarding the constantly growing information demand.”

In addition, Henkel records the carbon emissions generated in the manufacture and use of the lamination adhesive in the DPP. This information is critical to complying with the ESPR requirements and to assessing the product’s carbon footprint throughout its entire life cycle.

The information recorded in the DPP enable end-of-life companies to properly manage the disposed packaging when it arrives to the sorting and recycling center, positively contributing to circular economy and recycling ratio.

Actively shaping the transition for processes and materials

“We are on track to be able to offer each customer a sustainable product that is either derived from sustainable sources or has an outstanding recyclability profile,” explains Philippe Blank. As a supplier and brand owner, Henkel is in the unique position of covering a large part of the value chain. “80 percent of a product’s environmental footprint is defined in the design phase. We use our knowledge to advise our customers at an early stage,” emphasizes Philippe Blank.

The product carbon footprint (PCF) of individual components and of the product overall has a particularly crucial role to play here. In this connection, Henkel has established extensive capacities to identify savings potential and provide reliable data for Digital Product Passports and reporting requirements. These data are especially relevant to the recyclability of packaging and the obligation to use recycled raw materials.

“We align our work with leading assessment methods and design guidelines and are actively working on new test methods,” says Philippe Blank. The packaging industry is currently undergoing a profound change that is resulting in a significant shift in the materials used. These changes are also impacting existing recycling processes. The goal is to close the gaps through the active research and development of new test methods in order to prepare Henkel and its customers for pending legislative changes.

Outlook: The DPP to drive innovation and sustainability

“We believe that the DPP offers a great opportunity to promote the circular economy by providing better recycling information, to increase transparency in the supply chain and to strengthen the trust of our customers and partners in our products,”

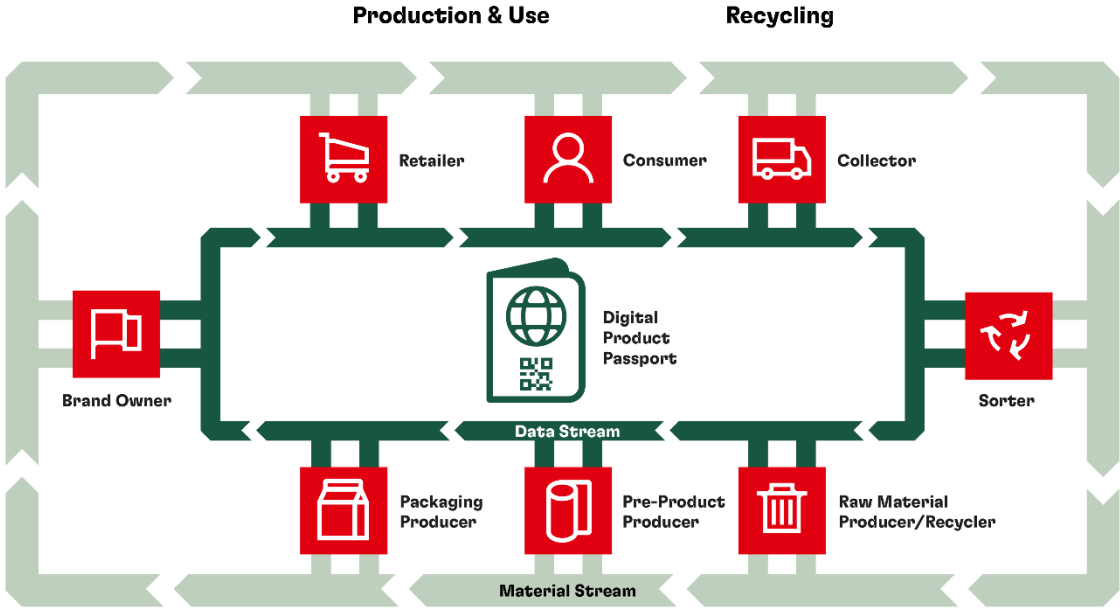
summarizes Philippe Blank. In the years ahead, the DPP will play a central role in the packaging industry as a key lever for driving innovation and increasing competitiveness. In addition to sustainable product development, the DPP is paving the way for the creation of new business models based on digitalization and the circular economy.

About Henkel

With its brands, innovations and technologies, Henkel holds leading market positions worldwide in the industrial and consumer businesses. The business unit Adhesive Technologies is the global leader in the market for adhesives, sealants and functional coatings. With Consumer Brands, the company holds leading positions especially in laundry & home care and hair in many markets and categories around the world. The company's three strongest brands are Loctite, Persil and Schwarzkopf. In fiscal 2023, Henkel reported sales of more than 21.5 billion euros and adjusted operating profit of around 2.6 billion euros. Henkel's preferred shares are listed in the German stock index DAX. Sustainability has a long tradition at Henkel, and the company has a clear sustainability strategy with specific targets. Henkel was founded in 1876 and today employs a diverse team of about 48,000 people worldwide – united by a strong corporate culture, shared values and a common purpose: "Pioneers at heart for the good of generations." More information at www.henkel.com



As part of a joint project with R-Cycle, Henkel decided to actively test and implement the Digital Product Passport with a pilot project using Loctite Liofol solvent free adhesive to reliably laminate stand-up pouches. (Photo: Henkel)



The DPP enables the seamless traceability of packaging along the supply chain, creates transparency and facilitates legal compliance. (Photo: Henkel)



Philippe Blank, Head of Circular Economy at Henkel. (Photo: Henkel)