Executive Summary

The European economy is at a decisive turning point. With the **EU Green Deal** and the **Circular Economy Action Plan (CEAP)**, the European Union has defined ambitious goals to use resources more efficiently, reduce waste, and establish a **sustainable circular economy**. These measures have far-reaching impacts on numerous industries, both within and outside the EU.

To achieve these goals, new requirements are being introduced and existing legal frameworks further developed. In this way, the EU creates clear conditions while ensuring that compliance is effectively monitored and enforced.

In particular, the **packaging industry**, as an essential part of the circular economy and the value chain, faces new challenges with the entry into force of the EU Packaging and Packaging Waste Regulation. In addition to increasing requirements for **data management and transparency**, companies are obliged to provide packaging data along the entire supply chain. This calls for innovative approaches to **collecting, processing, and providing** information.

The **Green Deal Packaging Framework (GDPF)*** addresses this situation. It offers the packaging industry clear guidance as well as practical support to ensure compliance with regulatory requirements.

The EU Packaging Regulation brings far-reaching changes for companies. The Initiative Digital Packaging Transformation (IDPT) supports the establishment of efficient and future-proof processes throughout the entire supply chain.

- DI Dieter Schuch, Head of Research & Development, Altstoff Recycling Austria AG

The PPWR demands transparency, clarity, and accountability throughout the entire supply chain – and that's exactly where we take actions: We have already begun to systematically and digitally capture the packaging data of our private-label products at BILLA and BIPA. Together with the Digital Packaging Transformation Initiative and the Packaging Cockpit tool, we are laying the foundation for a new packaging landscape – data-driven, efficient, and future-proof.

– Andreas W. Streit, Head of Sustainability, REWE International

"The PPWR impacts all actors along the supply chain to a comparable extent. The GDPF is designed to provide guidance in achieving PPWR compliance in a structured, sustainable, and efficient manner."

– Lukas Wiesmüller, Head of Corporate Sustainability, SPAR Österreichische Warenhandels-AG

* The GDPF is provided free of charge, without liability or warranty.

1 **GDPF Section 1:** Basic Principles of Data Transfer and Information Exchange

1.1 Introduction and Background

1.1.1 Legal Background

The EU aims to bring the economy and the environment into closer alignment and is driving numerous measures to promote a sustainable, circular economy. In the packaging sector in particular, the EU Packaging and Packaging Waste Regulation (PPWR) introduces far-reaching changes. Companies will be required to ensure transparency regarding materials, recyclability, the use of recycled content, and reuse. To achieve this, comprehensive packaging data must be systematically collected and made available throughout the entire value chain.

1.1.2 The Initiative Digital Packaging Transformation (IDPT)

To meet the increasing regulatory requirements for packaging, the **Initiative Digital Packaging Transformation (IDPT)** was launched. Its goal is to support companies along the supply chain in providing the necessary data efficiently and consistently – as a foundation for meeting regulatory obligations.

The initiative sees itself as a collaborative, project-based organization that works in a practical manner on the implementation of data collection.

At the core of the initiative is the **Green Deal Packaging Framework (GDPF)**, which:

- establishes standardized processes for communication and data transfer across the supply chain,

- promotes the use of a consistent terminology and vocabulary – closely aligned with existing standards wherever possible,

- and provides clear guidelines for the structured collection of packaging data by packaging format within the Packaging Cockpit.

1.1.2.1 Initiators of the IDPT

The initiative was founded by leading players in the packaging value chain, including **PreZero, Lidl, Kaufland**, as well as **Billa/Bipa**, **SPAR Austria**, **Altstoff Recycling Austria** and the **Packaging Cockpit**.

1.1.3 The Packaging Cockpit and its advantages

To successfully achieve the objectives of the GDPF, the initiative relies on the Packaging Cockpit – a tool for the digitalisation and management of packaging data across the entire supply chain.

The Packaging Cockpit offers the following advantages in the digitalisation of packaging data management:

- Seamless transmission of packaging data between stakeholders along the supply chain
- Management of packaging data for both private-label products of consumer goods manufacturers and own-brands of retail companies

- Minimisation of efforts an Aufwänden durch nützliche Funktionen (z.B. Kopierfunktion von Datensätzen, Tracking-Funktion für Fehlerbehebung)
- Expert support service
- Efficient calculation of key figures for current and future legal recquirements to ensure compliance
- Continuous development and adaptation to legal requirements, as well as the ability to generate a declaration of conformity in line with the PPWR

1.1.3.1 Costs

The Packaging Cockpit provides all stakeholders in the supply chain with a free basic version on a permanent basis. This version is sufficiently equipped to enable collaboration across the supply chain, allowing all parties to benefit from a unified solution at no cost. Additional features, such as extra users or datasets, can be purchased through the tool's webshop. In addition to the web application, the Packaging Cockpit can also be integrated with company's own software systems, such as ERP, PIM, and others, thereby extending them with the capabilities of the Packaging Cockpit.

1.1.3.2 Data security

In the Packaging Cockpit, data security has the highest priority. Each organisation has access exclusively to its own data. Data transfers are always actively initiated by both the sending and the receiving company.

The platform is developed according to the latest information security standards. A multi-layered security concept ensures that unauthorized access by third parties is effectively prevented. Hosting is provided by a certified Austrian provider in compliance with ISO 27001 – an internationally recognized standard for information security management systems.

Neither distribution partners nor external consultants have access to user data.

1.2 Legal requirements

The GDPF focuses in particular on the provisions of the Packaging and Packaging Waste Regulation (PPWR) as well as the legal framework for the life cycle assessment of packaging, including the requirements of the Corporate Sustainability Reporting Directive (CSRD).

The IDPT focuses on the packaging data that are at minimum required to comply with the relevant legal provisions.

1.2.1 The Packaging and Packaging Waste Regulation (PPWR)

The PPWR sets out numerous requirements for packaging, which must be implemented at different points in the coming years. The following overview provides a summary of these provisions:

Figure 1: PPWR Requirements
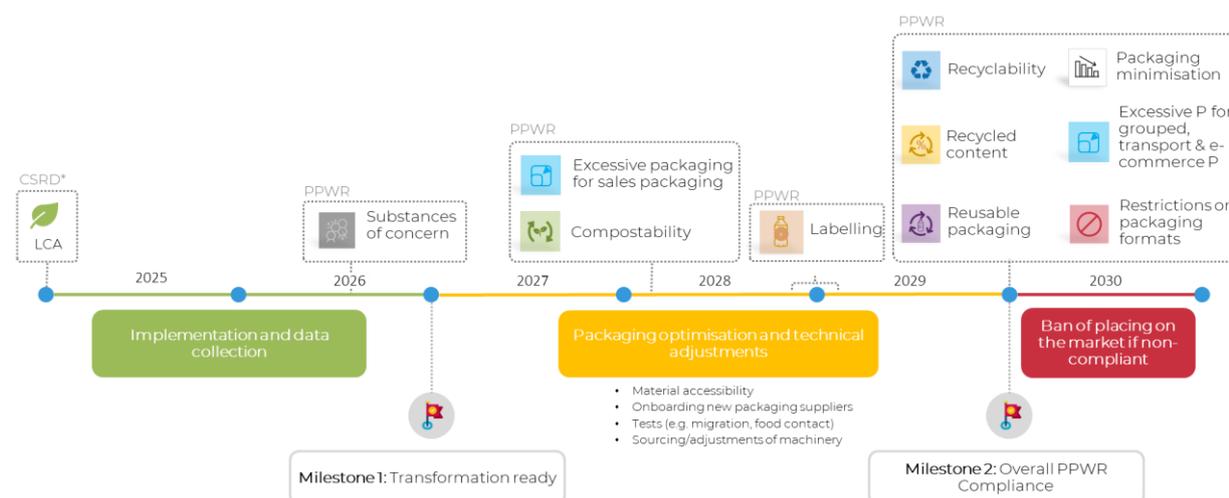
1.2.2 Life Cycle Assessments (LCA)

Life cycle assessments of packaging play a role in sustainability reporting requirements, such as the Corporate Sustainability Reporting Directive (CSRD). The implementation of these requirements is still pending in many member states of the European Union. With the omnibus procedure and the "stop-the-clock" proposal from Package I, which has since been adopted by the European Parliament and the Council of the EU, companies in waves 2 and 3 have been granted a postponement: the mandatory submission of a sustainability report is thus postponed by two years, from 2025 to 2027.

Figure 1: Reference graphic fort he representation of LCA-relevant data attributes

1.3 Project plan for achieving compliance

To ensure legal compliance, the next steps of the initiative have been divided into staggered packages of measures (see Fig. 4).

Figure 2: Project plan of the Initiative Digital Packaging Transformation

1.3.1 Implementation and Data Collection

In 2025 and 2026, the focus will be on collecting and evaluating all relevant packaging data. Already in this phase, data will be systematically collected both to meet PPWR requirements (data package 1) and for LCA analyses (data package 2). This also includes data necessary for calculating recyclability.

The central goal of the first phase is to reach the **"Transformation Ready"** milestone by the end of 2026. This includes, on the one hand, the desired conformity with the CSRD and, on the other hand, the calculation of essential PPWR key figures, which must be available and included in the declaration of conformity from 12 August 2026 onwards. Based on this data, a coordinated and prioritised action plan for optimising packaging will then be developed.

1.3.2 Packaging optimisation and technical adjustments

Following the initial data collection phase, the focus shifts to the practical implementation of required packaging optimizations and technical adjustments throughout the supply chain. Companies are given a three-year timeframe to gradually initiate and carry out the necessary measures.

The transformation processes include in particular:

- assessing material availability,
- screening and onboarding suitable packaging manufacturers,
- evaluating and implementing machine modifications or acquisitions,
- conducting material tests and food law compliance checks.

At the same time, it is essential to ensure that all applicable PPWR requirements are continuously met in full compliance with the law throughout this period.

By the end of 2029, when the majority of PPWR requirements come into force, the second milestone **"Overall PPWR Compliance"** is to be achieved. This milestone encompasses full compliance with the PPWR as well as the sustainable, efficient, and cost-effective adaptation of production processes to the new regulatory requirements.

1.4 Minimum data requirements

1.4.1 Overview of the required data fields

All data fields required to meet the PPWR as well as the LCA-based sustainability reporting requirements have been identified and assigned to the respective legal provisions. An overview of this allocation can be found in Annex I. This ensures that anyone working with the GDPF can immediately understand the purpose of each data field.

In addition to the data fields for PPWR and LCA, certain data fields have also been identified as part of the minimum requirements that are necessary for successful identification and communication within the supply chain. These are marked with the following symbol:

Figure 3: Symbol for marking data fields required for supply chain identification

1.4.1.1 Number of data entries and attributes

The number of attributes used always remains constant. However, with each additional packaging component, the number of required data entries increases, since the same attributes – such as the manufacturing process – must be completed for each component.

The total scope of data to be collected is therefore determined primarily by the complexity of the packaging's structure.

The following figure illustrates, using the example of a coffee drink, the number of required data entries and attributes for packaging. While the number of data entries increases with each additional packaging component, the number of recorded attributes remains unchanged.
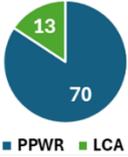
Components	Number of data entries	Number of attributes	Ratio of PPWR Data Entries to LCA-Relevant Data
• Cup • Sleeve • Sealing foil • Cap	128	45	13 / 70 PPWR LCA
• Cup • Sleeve • Sealing foil • Cap • Carton box • Pallet • Schrinking foil	259	45	25 / 130 PPWR LCA

Figure 4: Number of data entries and attributes based on an example (coffee cup)

In addition, the number of data entries required exclusively for LCA calculation is limited to a few specific details. These mainly concern information on the origin and manufacturing process of individual packaging components. For this reason, the project plan envisages systematically collecting relevant data for LCA calculations from 2025 onwards.

1.4.1.2 Expansion of neccesary attributes

The PPWR comprises numerous open secondary legal provisions, including delegated acts, reports and standards. These will specify further requirements for the calculation and evaluation of specific measures. This will inevitably lead to an expansion of the necessary data collection and an increase in the attributes to be queried. The initiative is monitoring developments and is also actively represented in CEN[1] working groups, enabling new requirements to be integrated efficiently and immediately.

1.4.2 The declaration of conformity

The preparation of technical documentation as well as the conformity assessment procedure will become an integral part of the Packaging Cockpit's service offering. Many of the elements relevant for the declaration of conformity are already included in the Packaging Cockpit, such as the detailed description of packaging components and the calculation of key indicators like recyclability or recycled content.

In addition, the continuous collection and evaluation of practical experience with information provided by the supply chain (e.g., test reports, technical data sheets) will, over time, lead to the development of more precise and standardised requirements.

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[1] The European Committee for Standardisation (Comité Européen de Normalisation) is the European standardisation organisation that develops technical standards.

1.5 Granularity of packaging data

1.5.1 Query of packaging levels

The PPWR requirements apply to all packaging levels. The following graphic provides an overview of the requirements and the packaging levels to which they apply:
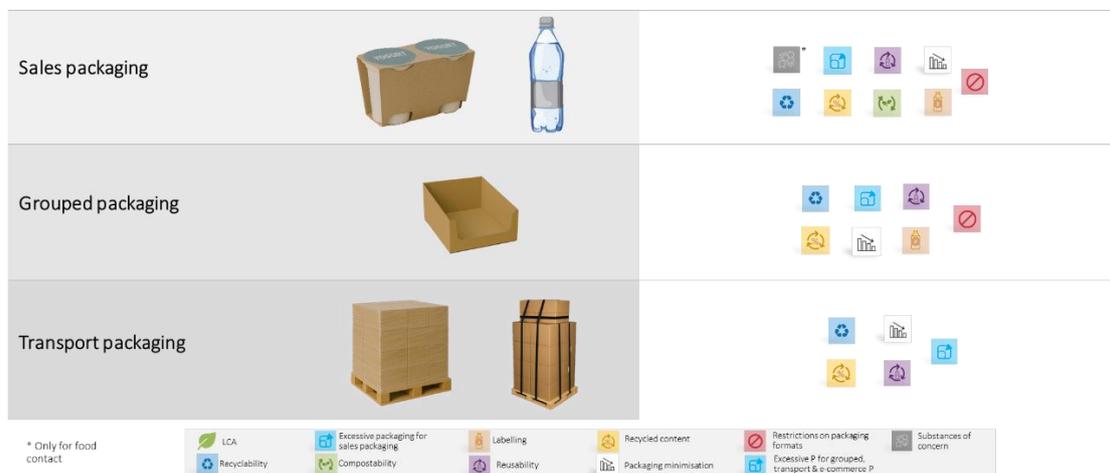

Figure 5: PPWR requirements for each packaging level

Since PPWR requirements must be met at each of the three levels – sales packaging, grouped packaging, and transport packaging – the entry of all three levels in the Packaging Cockpit is required. Further information, including definitions and descriptions of the packaging levels, can be found in the PPWR Compendium.

1.5.2 The decoupling point

The collection of packaging information in the Packaging Cockpit is carried out with a high level of detail down to the order unit level. This is the level that serves as the order unit between retailers and consumer goods manufacturers.

In the Packaging Cockpit, users will be able to assign the order unit when creating a packaging system. It forms the basis for internal company calculations and serves as the central reference point for internal data evaluations. For this reason, data is stored down to the order unit with exact composition.

In many cases, the order unit is a grouped package/carton. If this is the case, both mixed cartons (containing different sales packaging variants) and uniform cartons can be specified.

At the next higher level(s), packaging is structured uniformly and specified exclusively as uniform systems. This can include, for example, the transport packaging or the pallet. A uniform setup would be, for instance, a pallet with 24 cartons/grouped packages, all carrying the same item number of the order unit. Mixed pallets or individually picked pallets are intentionally not represented, as this would disproportionately increase the level of detail and lead to considerable effort within the supply chain.

The number of order units on a pallet can be used to determine the quantities of transport packaging employed on a proportional basis.

The transition from detailed recording of packaging data at the carton or order unit level to an approximate calculation of key figures based on uniform pallets is referred to as the

decoupling point (see Fig. 8). For better understanding of the terminology, please classify your packaging using the **PPWR Compendium**.
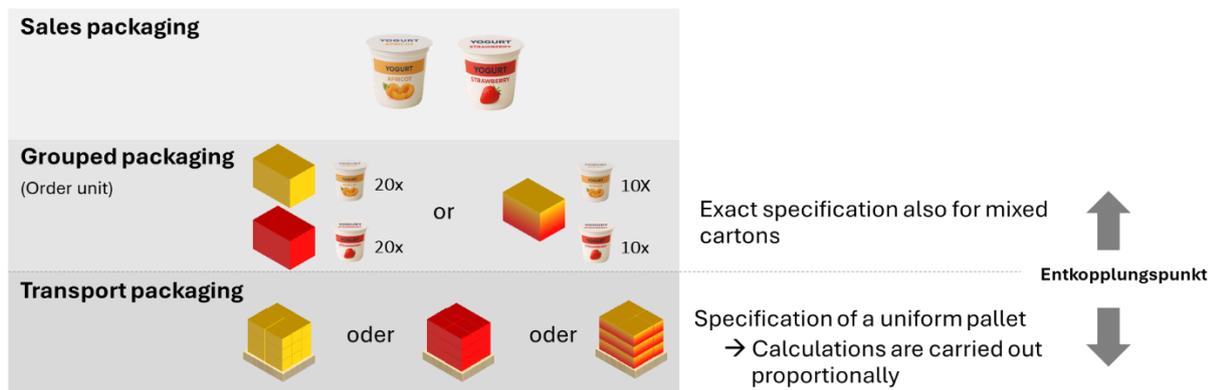

Figure 6: Example of detailed data entry up to the decoupling point

1.6 Data collection along the supply chain

1.6.1 Specification of data flow using identification data fields

The actor in the supply chain who requires information about packaging from their supplier (requestor) sends the supplier (sender) a list of identification numbers for the requested items. The identification numbers are, for example:

- Article number of the buyer
- Article number of the seller
- GTIN
- Project number

The parties involved agree on which attribute is to serve as the identification number.

The sender creates the corresponding datasets in the Packaging Cockpit for the articles to be provided, based on the identification numbers supplied, and transmits them to the requester using the "Export" functionality. This process is illustrated in the following graphic:
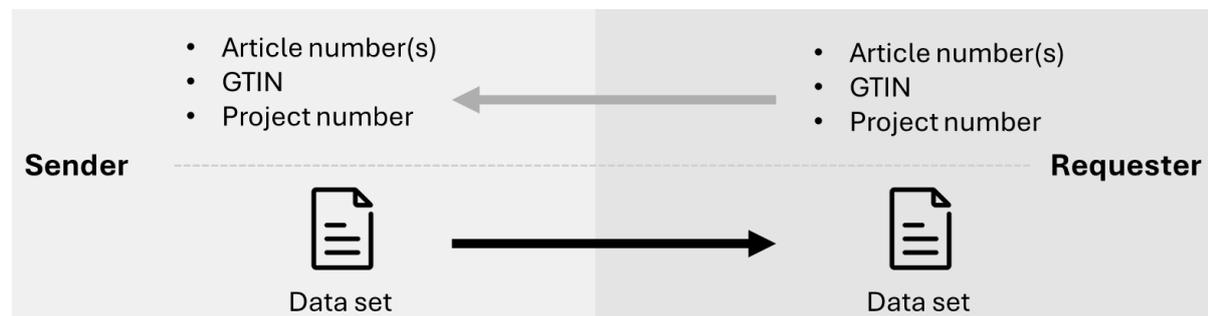
Figure 7: Schematic representation of data exchange between two actors in the supply chain

Of course, the actors in the supply chain are free to decide how they organize data exchange among themselves. The process described serves as a guideline.

It is important that the sender provides the requester exclusively with the packaging data of the sales, grouped, and transport packaging of the requested item. Packaging data relating to materials used for the packaging of individual components of the item are not part of the data exchange.

Concretely, this means: if a requester, for example, asks for data on a strawberry yogurt, they will receive from the sender information on the sales packaging (e.g., cup and lid), the grouped packaging (e.g., carton), and the transport packaging (e.g., pallet with stretch film) of this product. Not included, however, is packaging data for delivery packaging that serves solely for the transport of individual packaging components to the sender – such as the carton used to deliver 100 lids.

The article number or identification number of such delivery packaging (e.g., the 100-pack of lids) may, however, be used by the sender to clearly identify the corresponding packaging component when exchanging data with their upstream supplier.

Figures 10 and 11 illustrate by example the difference between the exchange of goods (products and packaging) and the data exchange in the Packaging Cockpit between the actors.
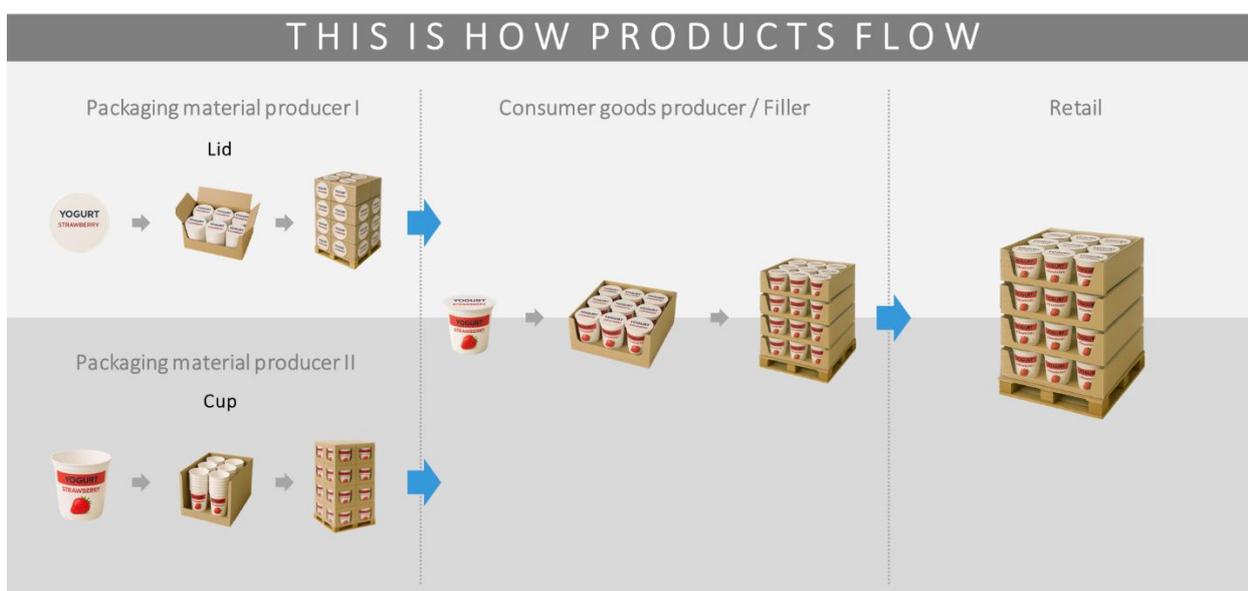
Figure 8: Exemplary representation of product and packaging exchange in the purchasing process
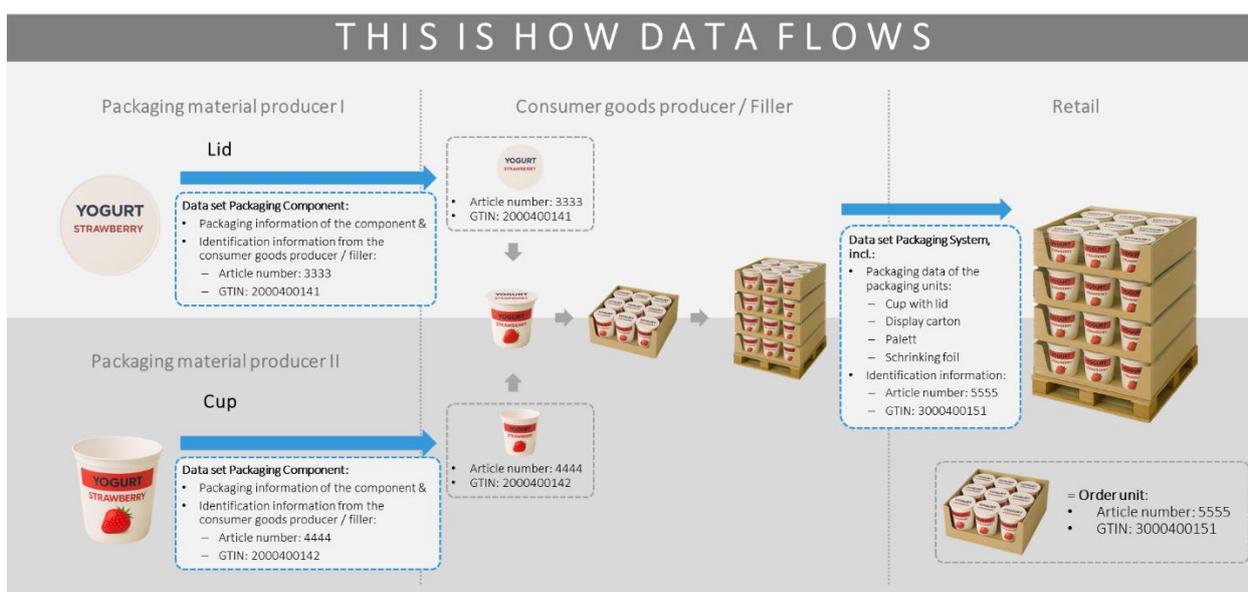
Abbildung 9: Exemplary representation of the provision of packaging data across the supply chain

How datasets are to be created in the Packaging Cockpit and exchanged within the supply chain can be found in the section *Quick Start to the Packaging Cockpit*.

1.7 The modular structure of the Packaging Cockpit

The Packaging Cockpit enables the modular recording and compilation of packaging information, from individual material compositions and packaging components to complete packaging units and systems. Each packaging level can be created separately and flexibly in your own user account as a separate data record. The import/export function allows the data records of the respective packaging level to be efficiently transferred to downstream and upstream partners in the supply chain. Below are examples of the modular structure and exchange of data records along the supply chain:

***Consumer goods producer* assembles the packaging units (e.g. yoghurt pots with lids):** The consumer goods producer creates the packaging unit. The required component data can either be requested from the supplier or – if the information is already available – entered into the tool and added to the unit. The packaging units created in this way then serve as the basis for the creation of complete packaging systems (see Figure 12). Assistance with the correct creation of data can be found in the PPWR Compendium.
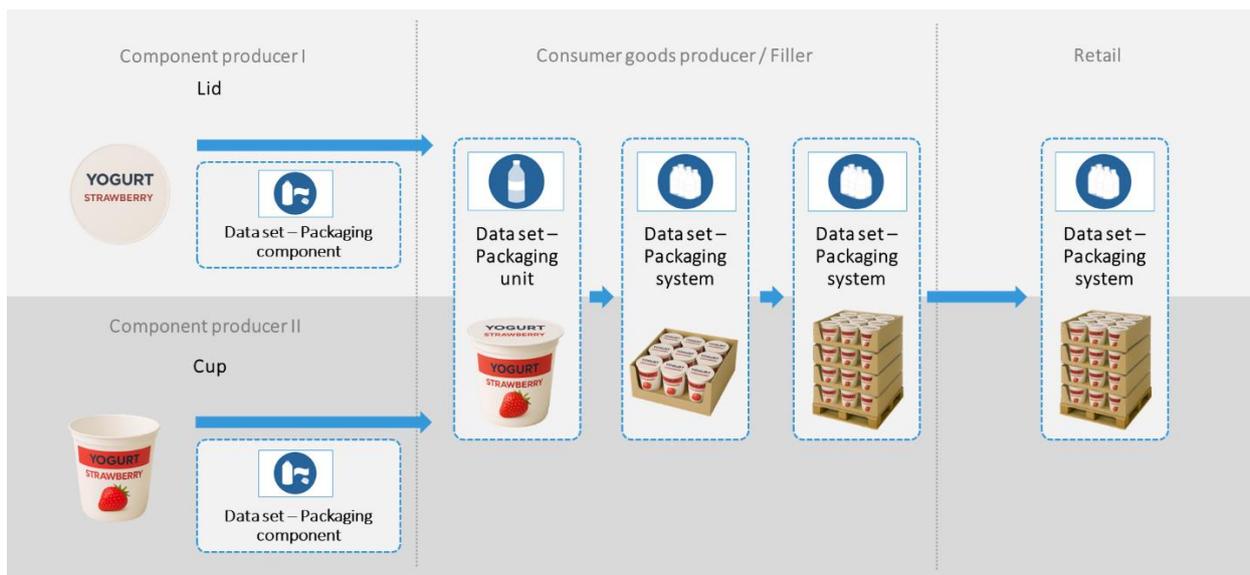
Figure 10: Exemplary representation of data transfer from packaging component producer to retail

Producer of one or more packaging components (e.g. plastic cups): This producer creates the components and makes them available to *the consumer goods producer*. The data required for the material structure can be requested from their upstream supplier (*packaging material manufacturer)* and created separately as a material composition data record in their folder structure. Alternatively, the material composition can also be inserted directly into the component.
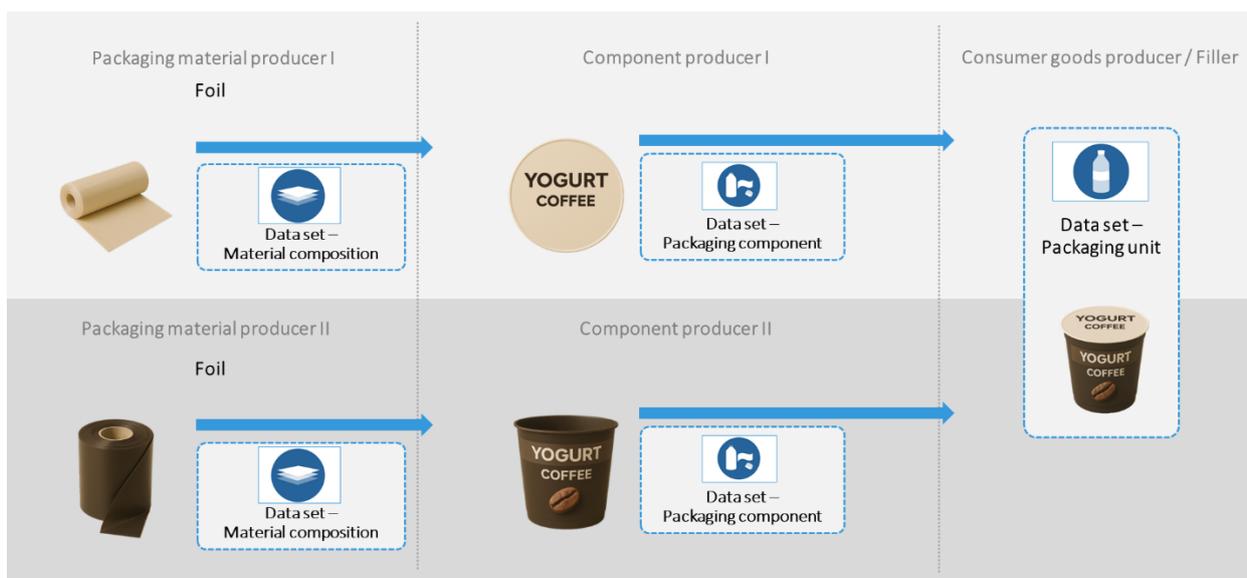
Figure 11: Exemplary representation of data transfer from material producer to consumer goods producer / filler

1.7.1 Template for using the folder structure

In the Packaging Cockpit, the folder structure for storing data sets can be designed flexibly. The following shows a recommended structure depending on the application scenario:

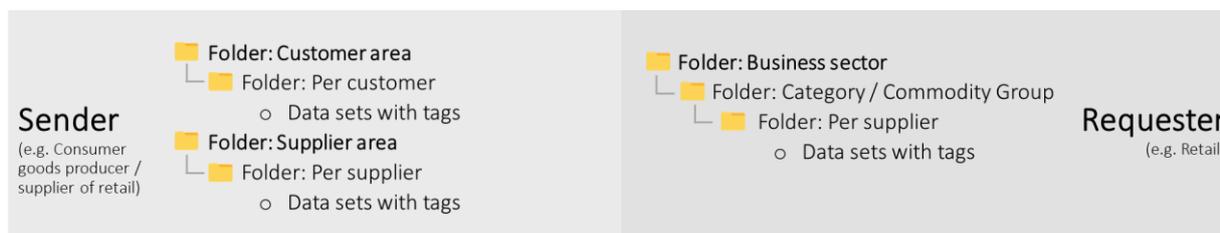1. **Template from the perspective of *the retail sector* as the requester**

Figure 12: Template of a folder structure for retail and consumer goods producer / supplier of retail

For own-label products of retail, it is recommended on the requester side to first create a company area and structure the datasets within it by product group and supplier (see Fig. 14).

On the sender side, it is advisable to set up a customer area (e.g., per retailer) for storing the specific datasets. In addition, a separate supplier area can be created in which packaging datasets from upstream suppliers are maintained and subsequently reused in customer projects (within the customer area).

2. **Template from the perspective of a consumer goods producer as the requester**
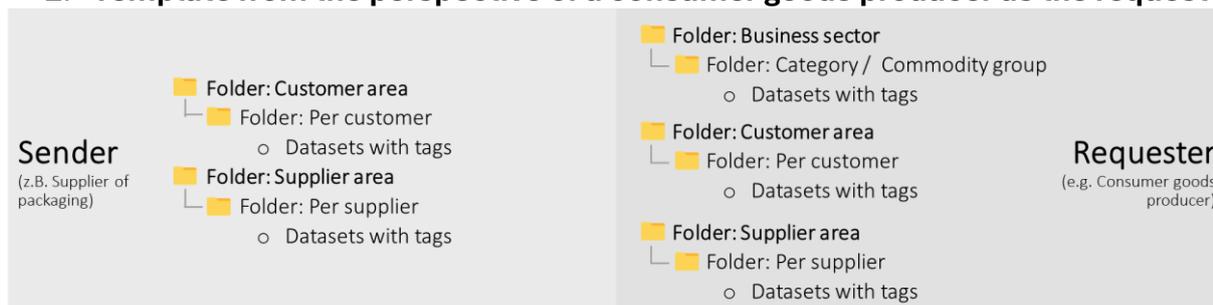
Figure 13: Template of a folder structure for packaging producers / suppliers and consumer goods producer

Consumer goods producers, who produce both private labels and retail own-brands can make their structure even more granular:

- **Business area**: for private labels, sorted by goods or product groups.
- **Customer area**: for retailer's own brand articles, structured by customer, i.e. per retail chain.
- **Supplier area**: for managing external packaging data from upstream suppliers.

The sender structure remains the same as in the first variant.

1.7.2 Tagging-function in the Packaging Cockpit

Datasets can be tagged with individually selectable tags in the Packaging Cockpit. It is recommended to use tags specifically for internal organisation and status tracking of data records.

- "Exported"→ for data records that have been transmitted to a requester
- "Validated"→ e for checked and finally approved data records
- "In progress"→ : Data record is currently being created or checked
- "Query open"→ Information from the supplier or internal specialist department is still pending

1.8 Regulations on changes to packaging data

1.8.1 Basic principles of dataset creation along the supply chain

In order to ensure a consistent, transparent and at the same time adaptable database along the supply chain, the following central principle applies: **A separate dataset should be maintained for each *sales product variant* and each type of packaging – from both a technical and an identification/logistics perspective.**

→ Deviations from this, see section 1.8.5

The basic principle at a glance:

- A separate dataset is created for each combination of *sales product variant* and associated packaging.
- This also applies if the technical packaging specifications of several variants do not differ (e.g. in terms of weight, colour or material).
- Differences in sales and procurement-related key figures, such as article numbers or GTINs, which serve as unique identifiers within the supply chain – e.g. in the purchasing of packaging components – are also taken into account..

Figure 16 illustrates this principle using the example of banana, strawberry, apricot, passion fruit, chocolate and coffee yoghurt variants: although the packaging of the first four variants

does not differ technically, a separate dataset is created for each. The advantages of this approach are listed below.
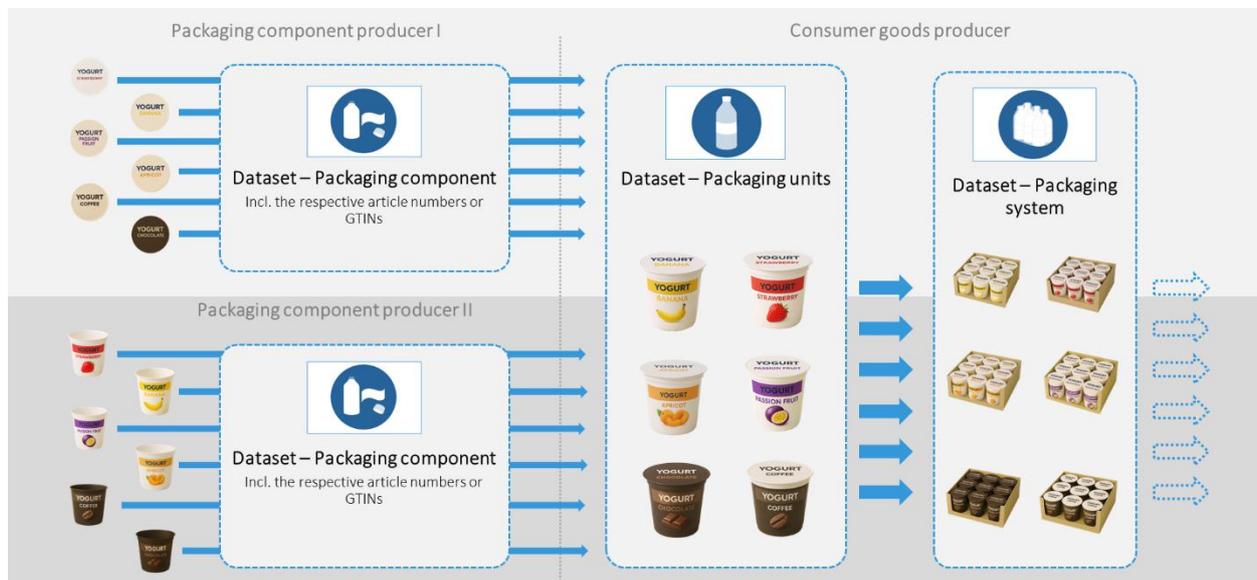

Figure 14: Exemplary illustration showing that a separate data record must be created for each combination of sales product variant and packaging variant

This approach involves a certain amount of effort, especially when there are a large number of variants with identical packaging specifications. However, the advantages described below show the added value that this recommended approach offers.

Note: In this example, the lid is of course listed as a single data record for all variants of the sales product if the purchase item is an unprinted circuit board. If this unprinted circuit board is subsequently printed, the printing can be specified as a material layer of the closure in the packaging unit.

1.8.2 When to create a new dataset

A new data record must be created if:

1. A new sales product or variant with a new item number or GTIN is introduced
2. Packaging-specific changes occur in existing sales *product* variants, such as:
    a. Changes to PPWR-relevant attributes:
        i. Change in fill quantity, i.e. net weight
        ii. Any deliberate change to a packaging specification (e.g. dimensions, weight, material composition)
    b. Changes to LCA-relevant attributes:
        i. Location-specific changes, such as country of manufacture, country of assembly
        ii. Manufacturing process
3. Changes in logistical or identification-specific attributes:
    a. Changes to identification numbers in the supply chain, e.g.:
        i. Changes in text or layout that do not result in any changes to PPWR-relevant attributes (e.g. colour) but do result in new identification numbers in the purchasing process within the supply chain
        ii. Changes in the number of packaging units in a packaging system, e.g. number of sales packaging units in a (display) carton

1.8.3 Advantages of this approach

Creating a separate dataset for each combination of *sales product variant* and associated packaging offers a number of key advantages, which are listed below:

1. **Precise sustainability assessment**
   Differences in packaging specifications such as material, colour or weight of different product variants can be recorded accurately. This is an important basis for calculating PPWR and LCA indicators.

2. **Flexibility in data changes**
   Changes to key figure-specific data (e.g. country of production) can be implemented specifically for the variants affected – without affecting others.

3. **Future-proof data structure**
   New legal requirements can be quickly mapped, as new data fields can be added separately for each variant (example: residual emptying capability depending on the filling material).

4. **Uniform data structure**
   As an alternative to a dataset for each variant, one could consider creating families of packaging with the same properties. To do this, the relevance of all the different attributes would have to be decided for each individual case, and different actors would establish different rules for family formation. This would massively increase the complexity for all participants and thus generate additional effort.

5. **Improved traceability**
   The recording of identification features (e.g. GTIN, article number) enables clarity and transparency along the supply chain.

6. **Process harmonisation with procurement**
   The integration of supply chain identification metrics ensures that all stakeholders can easily understand the data requirements.

1.8.4 When can an existing dataset be versioned

When a dataset is changed, a new version of the dataset is created and this is used for each new calculation.

A new version of an existing dataset should only be created when incorrect entries need to be corrected. The integrated tracking function ensures that the updated information is passed on in a traceable and transparent manner along the entire supply chain to the sales product.

1.8.5 Deviation: Coverage of variants with one dataste

Representing each variant as a separate dataset is to be understood as a recommendation. Of course, you are free to choose alternative approaches, such as creating a single dataset for multiple sales product variants. However, we recommend comparing the advantages mentioned above with the potential benefits of reduced effort in data maintenance before making such a decision.

2 Glossary

Term	Explanation
Extended packaging data	Packaging data that the packaging producer cannot provide, e.g. packaging dimensions when using preforms or films, or surface coverage when using sleeves or bands.
Export	Export of datasets from an own Packaging Cockpit account to another (e.g. to a customer)
Import	Import of datasets from an external Packaging Cockpit account (e.g. from a supplier) to its own account
Consumer goods producer / Filler	A consumer goods producer or filler is a company that manufactures products and fills them into packaging. The products are then offered for sale in retail.
Retail	Retail comprises commercial enterprises that sell products from the food, near-food, or non-food sectors either to business customers (wholesale) or directly to end consumers (retail). This includes, among others, grocery retail, drugstores, DIY stores, and consumer electronics retailers.
Matching	Changing or adding datasets, creating packaging units and systems, linking one's own (filler's) product identification and/or the retailer's product identification
Update/Versionierung	Modification of existing datasets and corresponding versioning
Upload	Creation of new datasets by excel uploads
Sales product variant	A sales product variant is a specific form of a product that differs from other variants of the same base product through distinct characteristics such as labeling, product designation, or printing, and is made available to end consumers in retail.

Packaging material producer	A packaging material producer produces the raw material used for the production of packaging components, such as films, preforms, or carton layers. This material serves as the input for further processing by actors in the packaging supply chain.
Packaging component producer	A packaging component producer processes packaging materials into specific packaging elements such as bottles, caps, sleeves, etc. These components are then delivered to a consumer goods producer/filler to package a product.
Verpackungsmittelhersteller	A packaging producer can be either a producer of packaging materials, a producer of packaging components, or a company that performs both functions simultaneously.

Annex I: Assignment of data fields in the Packaging Cockpit to PPWR and LCA requirements, including highlighting of fields relevant for supply chain integration

- Data for material composition / composite material:
  - Header data:

o Packaging specific data:

- Data for packaging components:

Type of Main Body *	Manufacturer
Bag	
Article Name	Country of Manufacturing
Article Number	Countries of Distribution
GTIN	Length [mm]
Printing Coverage [%, Default: 0]	Width [mm]
Flexible / Rigid Component [Default: Flexible]	Height [mm]
Flexible	
Contains NIR-Barrier	Total Grammage of Main Body [g/m²]
Not Specified	
Direct contact with product?	Total Mass of Main Body [g]
Not Specified	
Volume of Filling [ml]	

LCA	Excessive packaging for sales packaging	Labelling	Recycled content	Restrictions on packaging formats	Substances of concern
Recyclability	Compostability	Reusability	Packaging minimisation	Excessive P for grouped, transport & e-commerce P	

- Packaging unit:
  - Header data:

Product Information

Brand Name*	
Product Name *	
Article Number	⟳
GTIN	⟳

Filling Good Information

Product Range	🟢 🟠 🚫
Category	🟢 🟠 🚫
Product Category	🟢 🟠 🚫
Quantity of Filling [g]	📦
Volume of Filling [ml]	📦

Manufacturing / Distribution

Countries of Distribution	🍃 ♻
Assembly Country	🍃

Product Dimensions ⓘ

Length [mm]	♻ 📊 📦
Width [mm]	♻ 📊 📦
Height [mm]	♻ 📊 📦

Legend:
- LCA
- Recyclability
- Excessive packaging for sales packaging
- Compostability
- Labelling
- Reusability
- Recycled content
- Packaging minimisation
- Restrictions on packaging formats
- Excessive P for grouped, transport & e-commerce P
- Substances of concern

o Component data, incl. separation conditions:

o Sonstiges:

- Packaging system:

Change log