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Green Logistics with SAP EWM

Optimizing Packaging Material Size

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Changing customer behaviour and increased concerns about packaging waste drive the discussion around sustainable and reusable packaging materials nowadays. While some retailers have already reacted and offer products unpacked within their stores, allowing clients to bring their very own packaging material with them, online merchants face the challenges of changed buying behaviour.

Increased online purchases – especially during the pandemic – have elevated the overall amount of packaging and packaging waste. Companies mainly selling products online, face the challenge to reduce packaging and packaging waste on the one hand, on the other side they need to ensure products arrive save and manage in parallel an increased number of returns.

Next to changing client behaviour, also legislators take measures and force national programmes, extending producer and seller responsibility schemes for packaging materials to prevent packaging waste and to minimise the environmental impact of packaging.

The European Union has set the ground with its Packaging and Packaging Waste Directive (PPWD) the rules within its member states. The Directive aims to harmonise national measures concerning the management of packaging and packaging waste and improve the quality of the environment by preventing and reducing the impact of packaging and packaging waste on the environment. The latest amendment of the Directive contains updated measures designed to prevent the production of packaging waste, and promotes the reuse, recycling and other forms of recovering of packaging waste, instead of its final disposal, thus contributing to the transition towards a circular economy.

Within the logistical process, the packaging process forms the central element in the process chain to manage, optimize and ideally reduce packaging and packaging waste. Picking, packing, staging and shipping are the typical steps, products run through before they arrive at their client destination. The selection of the most suitable packaging material is of vital importance in order to expand a sustainability footprint.

So how can companies improve with their logistical process and achieve this goal?

The way of packaging

Packaging is a coordinated system of preparing goods for safe, secure, efficient and effective handling, transport, distribution, storage, retailing, consumption and recovery, reuse or disposal combined with maximizing consumer value, sales and hence profit.

While environmentally friendly packaging is a new phenomenon, it is already a major and rapidly growing trend. Reducing packaging materials has been practiced for quite some time in order to reduce costs. Until recently, however, few companies did so to increase sustainability.

Currently, a significant number of companies face following challenges and problems:

Too large packaging

The use of too large packaging leads to increased consumption of resources (not only the packaging itself, but also the filling material used in it). Often the product is packed in boxes that are left with tremendous empty space because the warehouse operator does not have alternative, smaller packaging available. Instead, fill material is used to cover the unused volume in the box in order to protect the product from damage during transport. The result is that the truck and container utilization is not optimal and this results in fewer load in the trucks.

Poor product packaging design

Numerous companies neither have efficient packaging processes nor are they digitalized. It is often the case, that warehouse workers have several options to choose from packages of different sizes, but are not given clear instructions which packaging size to take. As a result, they arbitrarily choose packaging that may not be optimally suited to the product.

Rare use of reusable packaging

Many companies use disposable packaging to protect their goods during transport. Often, the environmental aspect is moved into the background because most packaging products are single-use. In the view of the current situation of environmental issues, companies must rethink their packaging processes and increasingly resort to multi-packaging systems. Otherwise, the generated packaging waste will stay a major concern in all industries, increasing their environmental footprint.

The structure of packing

In addition to packaging materials, packaging logistics also deals with the corresponding processes and structures of packing and packaging. As a result, it is identified overall as a field of work that offers enormous potential for optimization and savings.

Therefore, more and more companies are considering sustainability measures and are looking for ways to ‚go green' with their packaging. While helping the environment is one benefit of eco-friendly packaging, packing products using fewer and more sustainable materials reaps additional rewards:

Reduce costs

Increase productivity

Improve container and truck utilization

The concept of packaging management in the context of sustainable logistics

By supporting the picking process the optimal packaging size can be determined to reduce waste of space.

Sustainable packaging management is one component of the green logistics framework. The focus in packaging management is on material efficiency in the design of packaging and on waste disposal after use of the packaging.

Without system support the picker decides which packaging size to use during the picking process. Since the picker doesn't know all the product dimensions (length, height, weight) as well as the total picking quantity and the packaging regulations, the user may choose a wrong packaging size or packs the products in multiple cartons which raise the mentioned wastes above.

To reduce the packaging waste and to support the user make the right packaging size selection, it is of major benefit that the process is supported by an intelligent system like e.g. SAP EWM (Extended Warehouse Management).

Based on the SAP EWM configuration, the picking process can be supported in a way that the user is guided through the picking process in a comfortable way. This is achieved by the suggestion of the system which packaging material the user should choose from.

The prerequisites here are the following:

01. Maintenance of the dimensions of the picking products according to the length, width, height, volume and weight in the product master data of the system.
02. Definition of dimensions of different kind of packaging material as well as its maximum weight and volume.

Based on this foundation, the packing process can be optimized by the determination of the best-fitting packaging material. For this, the SAP EWM system determines the total quantity to be picked for the outbound delivery and calculates the maximum dimensions. Then, the system compares the result with the available packaging sizes and suggest the most efficient packaging material. Depending on the system and process configuration, the system is able to follow different strategies:

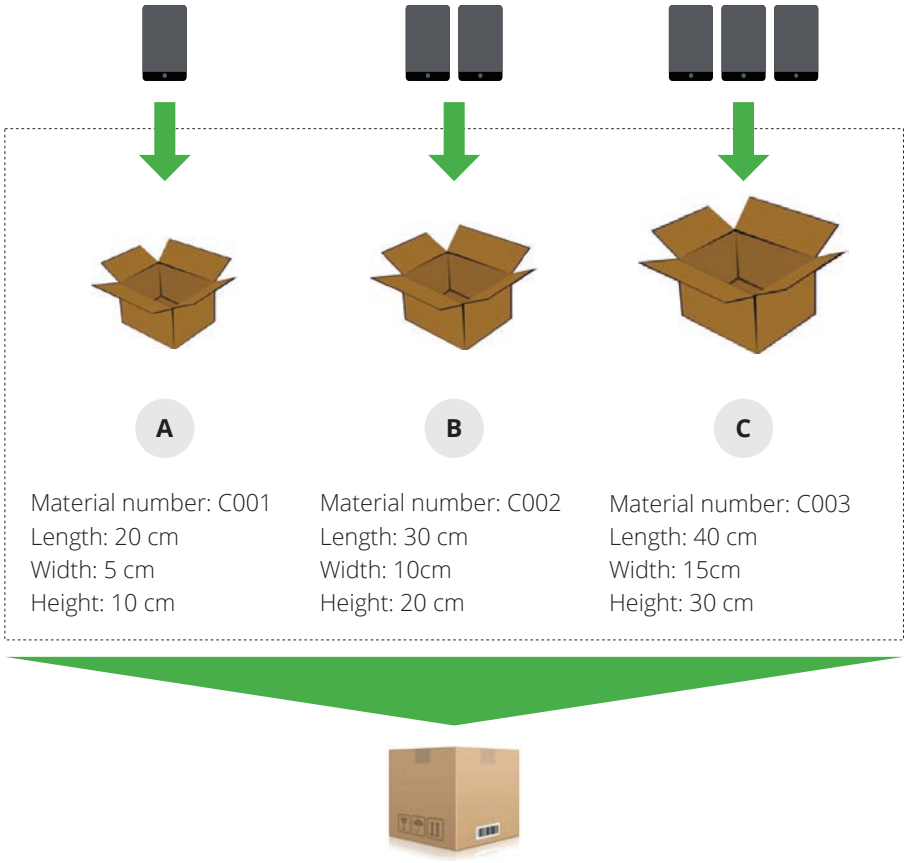
- Use as less packaging materials as possible
- Split quantity in multiple packaging materials to fit the packaging size as best as possible

Product Master

Material number: 4711
Length: 20 cm
Width: 2cm
Height:17 cm
Weight: 1,2 Kg
Volume: 1 CD³

Packing Specification

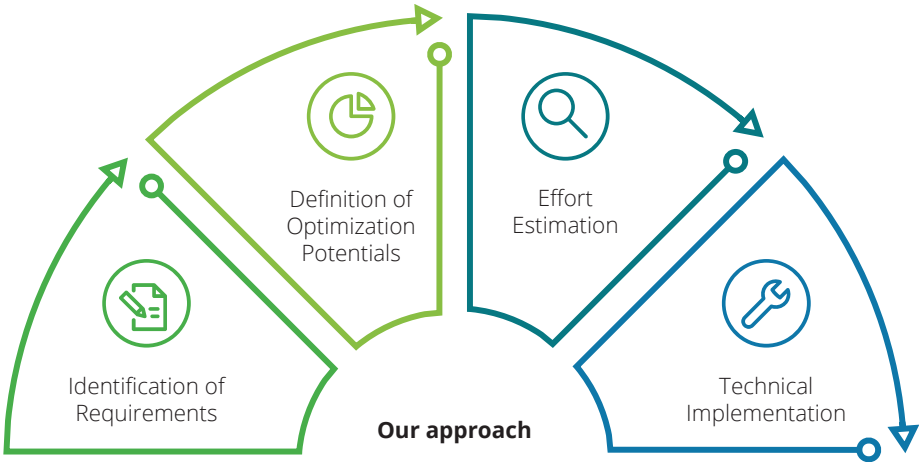
Carton C001
Max. Weight: 10 Kg
Max. Volume: 5 CD³



Our approach

Deloitte can provide you with an elaborated concept on how to proceed.

Within the framework of workshops, we first identify the packaging requirements that are relevant to your business processes. Through the extensive logistical know-how of our consultants, we simultaneously analyze the current packaging processes in your company with regard to different packaging guidelines that you must comply with. With the result of the analysis, optimization potentials (so-called fit-gap analysis) are defined. The effort estimation rounds off our work and includes the resources, time and budget needed to implement the measures. In the last step, we finally support you in the implementation of new packaging processes in the adapted system landscape.



Our approach

How can Deloitte support you

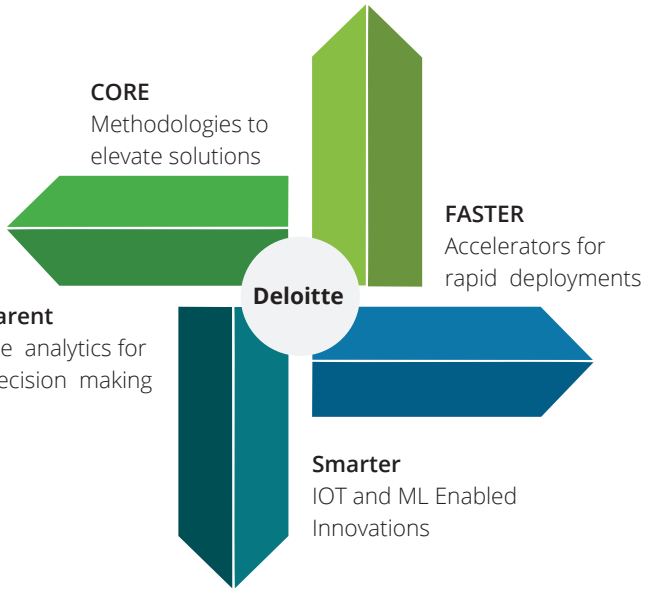
Deloitte is a global Consulting Company with more than 23.000 SAP solution experts worldwide and offers clients a host of services in the warehouse management transformation space, both in core SAP implementations as well as assessments and evaluations. By leveraging leading industry practices, championing cutting edge capabilities and drawing on lessons learned from prior transformations,

Deloitte has successfully delivered tailored solutions to meet individual customer needs. Furthermore Deloitte's comprehensive approach to SAP EWM Implementations offers proven methodologies, accelerators and innovations.

Deloitte is also pleased to have received a 2021 SAP® Pinnacle Award as the SAP S/4HANA® Partner of the Year–Large Enterprise Companies, which recognizes its outstanding contributions working with SAP. Within the implementation projects in different industry sectors, Deloitte has a huge experience in SAP implementation as well as optimizing the logistical processes.

- Agile SAP Delivery Playbook
- Enterprise Value Delivery Methodology
- Global EWM Community of Practice

- Real-time Analytics Dashboards
- Smart Stock Overview
- Digital Boardroom - Logistics
- Control Tower – Intelligent Insights



- S4 Model Warehouse Template (DLeaPS)
- Pre-configured Industry Based EWM process flows / Configuration Guides / Training Documents
- Site Data Collection Questionnaires
- Pre-configured security roles and role testing accelerators

SMART Warehousing Applications:

- Automatic staging and loading confirmation
- Kinetic Shopfloor Lite
- Mobile Vehicle Yard Check-In
- Automation integration
- Inventory Manager
- Fully automated production supply
- One-Click inventory

Deloitte is your contact to optimize your logistical processes and change the processes for a sustainable environment because of:

01. LEADING CONSULTING COMPANY
    … in the implementation of complex SAP S/4 HANA System Integration projects in **different industries**
02. FEASIBILITY TO SUCCESSFULLY TRANSFORM SAP WM
    … Deloitte has proven in numerous similar Projects our feasibility to **successfully transform SAP WM** for our customers **into SAP EWM**
03. EXTENSIVE KNOWLEDGE IN EWM S/4 HANA IMPLEMENTATIONS
    … Experienced Consultants and Subject Matter Experts with extensive **knowledge in EWM S/4 HANA implementations** across several industries
04. HUGE EXPERTISE IN GLOBAL ROLLOUTS OF SAP EWM
    … benefit from a **huge expertise** based on many successful **global rollouts of SAP EWM**

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