

 Powered by Menasha Corporation

INNOVATIVE
PACKAGING SOLUTIONS
FOR A SUSTAINABLE FUTURE

SUSTAINABILITY MEETS EFFICIENCY

How Reusable Plastic Transport Packaging Drive Companies Forward



REUSABLE TRANSPORT PACKAGING

Environmental and Economic Perspectives

PAGE 03

THE BENEFITS OF REUSABLE PACKAGING

Packaging Life-Cycle Assessments

PAGE 08

BEST PRACTICES

From Theory to Practice

PAGE 09

6 STEPS

to a More Sustainable Supply Chain

PAGE 12

ORBIS EUROPE

Our Commitment to Sustainability

PAGE 13

WHAT'S IN THIS WHITEPAPER

Sustainability and efficiency in the supply chain – can transport packaging achieve both? By replacing single use with reusable packaging, it certainly can.

Therefore, this whitepaper focuses on all aspects of reusable plastic transport packaging and outlines how you can make your supply chain fit for the future – in both environmental and economic terms.

Join us on the road to optimising your supply chain. Goodbye to the linear model of take-make-waste, hello to the circular economy of utilising reusable packaging!

All information in this whitepaper is for general, unbinding information purposes only.
It is not a legal advice service and cannot substitute for it.



REUSABLE TRANSPORT PACKAGING

ENVIRONMENTAL AND ECONOMIC PERSPECTIVES

Transport packaging is subject to high requirements: it needs to be **robust and durable**, protect the product and keep **costs as low as possible**.

At the same time, customers and political stakeholders are increasingly calling for greater sustainability measures in the logistics sector.

According to the Future Industry 2023 study conducted by Staufen AG, around **62 %** of surveyed DACH companies aim to become **carbon neutral** in the coming years.

In addition, the increasing automation of production facilities requires safe, durable and integrable transport packaging solutions that reduce order-picking times and prevent production losses.

Reusable plastic transport packaging represents a **sustainable and efficient** alternative to single- or limited-use packaging made from wood or cardboard – and meets the relevant industry requirements. In the right

application, they enable companies to **reduce the environmental footprint** in their supply chains while **realising economic benefits**.



“Companies are scrutinising every aspect of their supply chains to make product transport and storage more sustainable. They realise that the time has come to invest in innovative and cost-effective solutions while minimising their environmental impacts.”

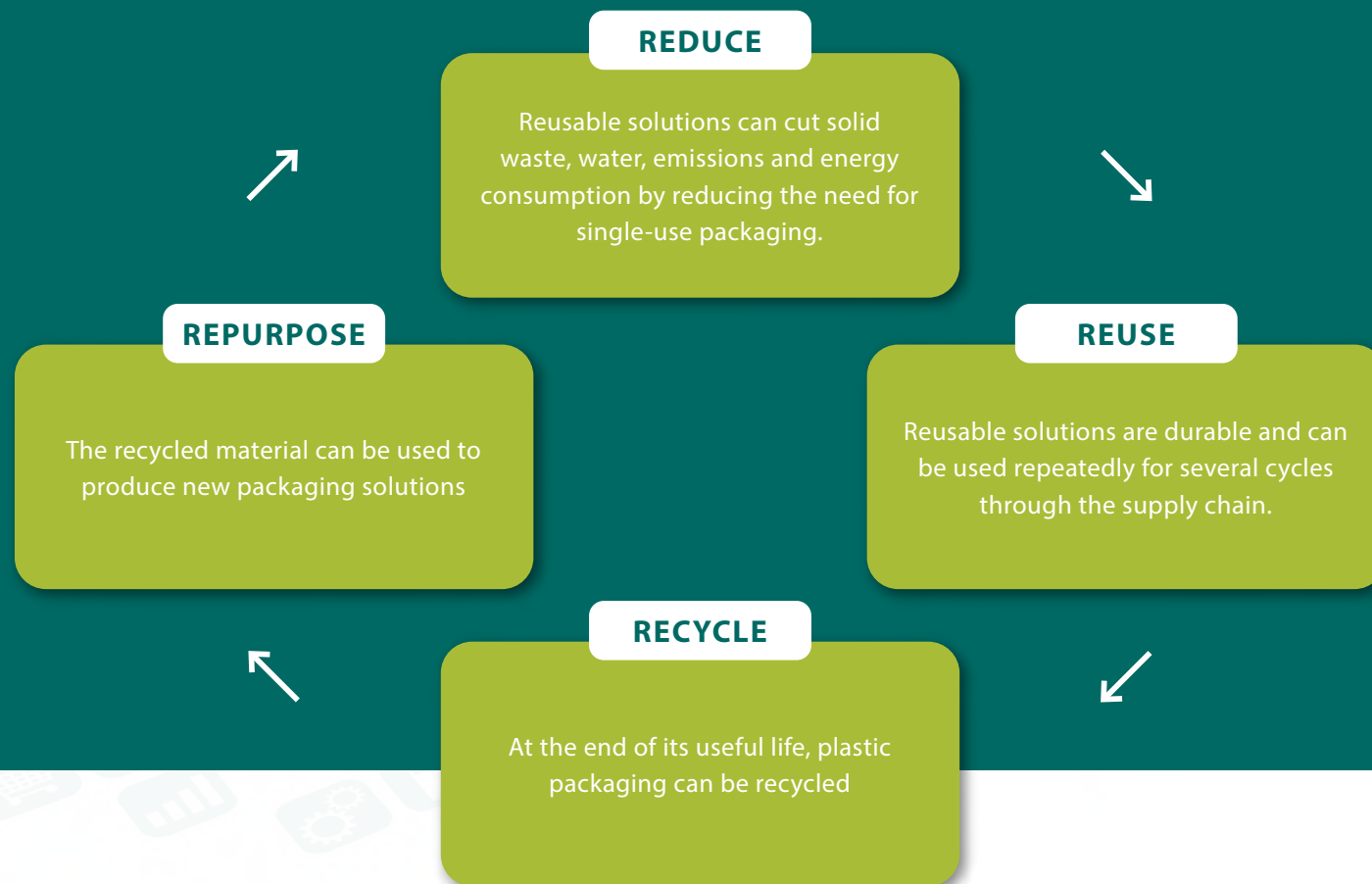
Jürgen Krahé, Senior Commercial Director EMEA, ORBIS Europe



CIRCULAR ECONOMY:

A BRIEF EXPLANATION

The circular economy concept aims to keep products and resources in circulation for as long as possible. Reusable packaging is in line with the concept's principles:





POSITIVE ENVIRONMENTAL IMPACTS

PACKAGING IN LINE WITH THE CIRCULAR ECONOMY

When implemented by companies in appropriate scenarios, reusable packaging provides several **environmental benefits**:

- + It can conserve natural resources and paves the way for the circular economy.
- + It can contribute to the EU's climate targets – which aim to reduce Carbon Dioxide (“CO₂”) emissions by 55 % by 2030 compared with 1990.
- + It can reduce solid waste and resource consumption throughout supply chains.

Whether reusable plastic packaging delivers these benefits depends on specific circumstances. Packaging life-cycle assessments can be used to compare different packaging options.

When evaluating the benefits of making the switch to a different substrate, it is important to consider the entire supply chain.

„CARBON DIOXIDE (“CO₂”) EMISSIONS NEED TO BE REDUCED BY 55% BY 2030 COMPARED WITH 1990“

THERE ARE DIFFERENT TYPES OF GREENHOUSE GAS (“GHG”) EMISSIONS.

SCOPE 1

Scope 1 emissions are generated onsite from direct sources (e.g., natural gas combustion from manufacturing operations, etc.).

SCOPE 2

Scope 2 emissions are indirect emissions from the purchase of electricity which is generated offsite by third-party power companies.

SCOPE 3

Scope 3 is the most extensive category used to determine a company's carbon footprint in line with the GHG Protocol. It encompasses all indirect greenhouse gas emissions generated throughout (upstream and downstream) the value supply chain. Companies do not have any direct control over Scope 3 emissions. However, they do have an opportunity to collaborate with their suppliers to reduce these GHG emissions through implementation of circular economy products, solutions, and services.



POSITIVE ECONOMIC IMPACTS

REUSABLE PACKAGING FOR AUTOMATED PROCESSES

Companies must continuously improve efficiency in their operations to remain competitive. This means ensuring production processes run smoothly, keeping downtime to a minimum and ensuring products are protected. So, what role does transport packaging play?

The **dimensional stability** of plastic packaging solutions ensures seamless integration into automated systems. Their standard sizes and surfaces are easy for sensors to identify which facilitate product flow throughout the supply chain. Other packaging materials are subject to damage, dust and splinters, which can cause downtime and disruption.

- + The **smooth surfaces** of plastic packaging minimise downtime and improve occupational safety. Whereas damaged wooden packaging poses a risk of injury from splinters, nails and sharp edges, reusable plastic packaging solutions are robust and have smooth, sealed surfaces that keep plant and machinery clean.
- + Reusable packaging made from plastic is **easy to clean and moisture resistant**. This prevents dirt, dust and moisture from accumulating on the products. The reduced risk of contamination leads to fewer product recalls.
- + Although reusable packaging usually entails higher initial acquisition costs, this is balanced out by their **high durability** and **long service life**. When handled properly and repaired effectively, they can remain in use for **many trips**.
- + At end of life, a **buy-back option** for reusable packaging compensates for the higher initial costs, while also minimising disposal costs. At the end of its service life, packaging can be recovered, recycled and reprocessed into new packaging.



IN BRIEF:

WHY REUSABLES

Sustainable reusable packaging helps companies keep up with the times: according to a study¹ by IFH Köln, 86 % of surveyed B2B buyers regard sustainable supply chains and fair working conditions as a competitive advantage.



1. REDUCED WASTE



**2. SUPPLY CHAIN-WIDE
COST SAVINGS**



**4. SUPERIOR
PART PROTECTION**



**3. CLEAN PLANTS
AND EQUIPMENT**



**5. STREAMLINED
AUTOMATION**



**6. OPTIMISED SPACE
UTILISATION**



“By understanding the environmental impact of their choices, our customers can reduce their footprint and make a positive impact on the world.”

Thomas Estock, Director of Sustainability, ORBIS Corporation

THE BENEFITS OF REUSABLE PACKAGING

THE PACKAGING LIFE-CYCLE ASSESSMENT TOOL

What are the specific benefits of switching to reusable transport packaging for a given company? Our Packaging Life-Cycle Assessment (“PLCA”) produces clear and comprehensible results to help companies understand, document, and improve their sustainability initiatives. Our product managers examine the data to develop a customised solution for a more sustainable and economical supply chain. The tool is based upon the International Standards Organization LCA methodology and life-cycle data provided by a third-party LCA research firm.

How does it work?

The PLCA tool is based on a straightforward three-step process:

Data entry (e.g. transport routes, modes of transport, packaging types)



Generation of **results tables** and charts



Interpretation of results by ORBIS product managers to develop a customised solution for your particular needs

The tool measures the impact of packaging in individual phases of the life cycle – from resource extraction to end of life. By comparing reusable and single-use packaging, ORBIS applies a data-driven analysis to help customers identify and reduce environmental impacts such as greenhouse gas emissions, water consumption, energy consumption and waste.



BEST PRACTICES

FROM THEORY TO PRACTICE

Case 1: Packaging solution for transporting food

Solution: PlastiCorr® reusable plastic boxes

A crisp manufacturer was using corrugated cardboard packaging. However, the cardboard boxes' inconsistent sizes were causing production issues – with cardboard container erectors suffering failures every 20 minutes. In addition, the next 20-30 boxes had to be disposed of as waste.

Switching to PlastiCorr® reusable plastic boxes significantly reduced downtime. Thanks to the boxes' **consistent characteristics** and dimensional stability, the machinery was able to run for more than five hours without interruptions.

PlastiCorr® boxes are easy to integrate into existing supply chains and **retain their quality and functionality even after repeated use.** The result is less waste and reduced downtime, which translates to significant time and cost efficiencies in the production process. Through its plastic design, dust and moisture-related issues are a thing of the past.





BEST PRACTICES

FROM THEORY TO PRACTICE

Case 2: Packaging solution for transporting food and beverage cans

Solution: German Pallet (1180 x 1265 mm)

A manufacturer of cans for food and beverages was using wooden pallets to transport empty primary packaging to the filling line. Due to its porous nature, however, the pallets quickly became damaged. Consequently, the company was frequently forced to replace pallets and incurred significant disposal and purchasing costs. This also wasted valuable resources.

By contrast, plastic pallets are easy to repair and clean. Switching to plastic pallets – which are considerably more durable – allowed the manufacturer to cut costs and save resources.

In addition, plastic pallets are **100 % recyclable**, with recycled materials used in new packaging production. The buy-back option eliminates disposal costs and avoids large amounts of waste.





BEST PRACTICES

FROM THEORY TO PRACTICE

Case 3: Packaging solution for transporting components

Solution: GitterPak® collapsible plastic pallet box

A European agricultural machinery manufacturer was using steel gitterboxes to transport components between suppliers and its assembly plants. The steel boxes were susceptible to rust, damages and deformation. Boxes frequently had to be replaced, leading to high costs.

After switching to the ORBIS GitterPak®, the manufacturer was able to reduce its maintenance and pallet procurement costs. Ultimately, the collapsible plastic containers are not only **more durable** but also **easy to repair** in case of damages. When handled properly, the plastic boxes can be used for **ten years and more**.

Another challenge was the high weight of the steel gitterboxes, which meant that returning empty cages was cost intensive. The ORBIS pallet boxes are **lighter** (60 kg versus 100 kg), while their **collapsible design** also allows more to be transported at once (264 versus 78). With fewer trucks on the road, this leads to lower fuel costs and reduced CO₂ emissions. Plus, the GitterPak® is made from recyclable material, meaning that the material is repurposed to manufacture new products.





6 STEPS TO A MORE SUSTAINABLE SUPPLY CHAIN:

1

Analysis of the entire supply chain: What transport routes and methods does the customer use? Will a standard product be able to meet their requirements? Or does the situation require a customised solution?

2

Concept development: Once the requirements are clear, ORBIS develops a concept to integrate reusable packaging seamlessly into the existing supply chain.

3

Added value: Key Performance Indicators (KPIs) measure the added value of the new transport solution. Typical KPIs include cost savings, reduced CO₂ emissions and energy consumption.

4

Implementation: ORBIS delivers the transport solution and supports its integration into the supply chain by overseeing its implementation and conducting trials.

5

Continuous optimisation: If the customer brings another product onto the market, will it change the production process or lead to new procedures? It is important to examine the impact. Is a new or amended solution required?

6

Buy-back: ORBIS buys back obsolete, damaged plastic packaging solutions and recycles and reprocesses it into other useful products.



OUR COMMITMENT TO SUSTAINABILITY:

- + We use recycled plastic to manufacture our collapsible pallet boxes.
- + We are constantly striving to reduce the consumption of natural resources (e.g. water) and environmental impacts (e.g. greenhouse gas emissions) in our production operations.
- + Our reusable packaging is designed with the circular economy concept in mind.
- + We produce plastic packaging solutions that eliminate the need for single-use packaging.
- + ORBIS' core products are 100 % recyclable at the end of their useful life.



👤 ORBIS Europe
🏠 An der Hasenkaule 10,
50354 Hürth
@ europe@orbiscorporation.com
🌐 www.orbiseurope.eu/en/



 Powered by Menasha Corporation

*INNOVATIVE
PACKAGING SOLUTIONS
FOR A SUSTAINABLE FUTURE*

ABOUT ORBIS EUROPE

ORBIS Europe engineers and manufactures durable and sustainable transport packaging solutions. The foldable large containers (FLCs), pallets and small load carriers are produced from recyclable and (partly) recycled plastics. Customised and standard solutions help streamline product flow along the entire supply chain. Therefore, companies from different industries, like industrial, automotive and FMCG, profit from long-term cost savings and CO₂ reduction.

ORBIS Corporation, headquartered in Oconomowoc, Wisconsin (USA), is part of Menasha Corporation in Neenah, Wisconsin (USA). Menasha is one of the oldest family-owned manufacturers in the United States (since 1849) and employs more than 6.000 employees at locations throughout Europe, the US, Mexico and Canada. With a European presence since 2002, ORBIS represents its parent company in the EMEA region. Since 2016, the ORBIS GmbH is located in Hürth, near Cologne, Germany.