

Prevent & Save

Guide to Returnable & Reusable Packaging Systems

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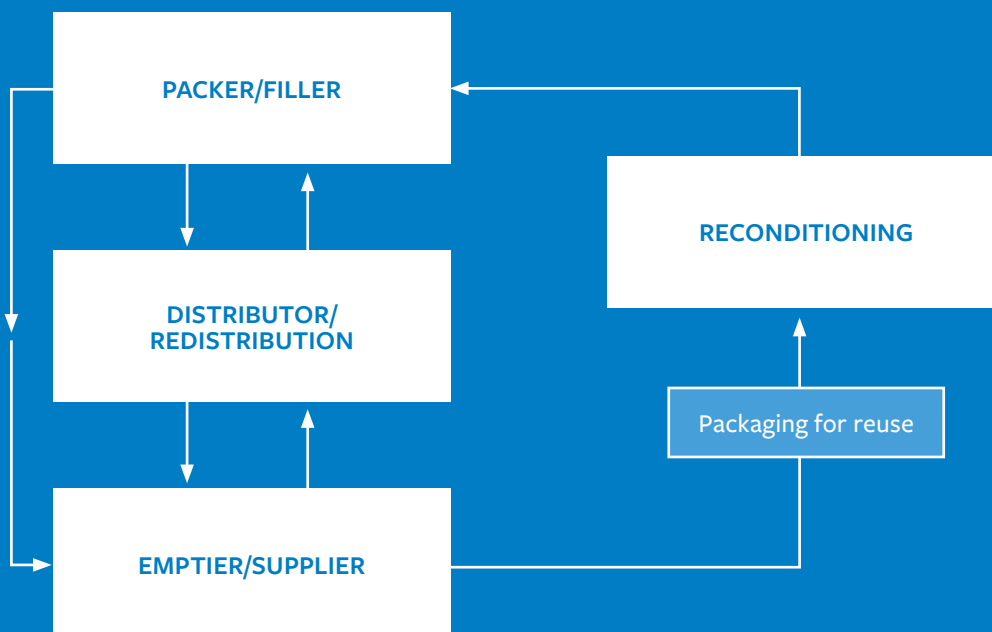
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Introduction

Part of achieving a circular economy involves keeping resources in circulation for as long as possible. Therefore one of the most significant waste prevention opportunities that exists for any business is to have a closed loop reuse system for supplied, work in progress or finished product packaging.

With much reusable primary packaging such as returnable bottles no longer a feature of our supply chains, secondary and tertiary packaging formats now tend to present the greatest opportunities to do this. Therefore returnable transport packaging can play an essential role in building a circular economy.

Closed Loop Reuse System



(Source: EN13429:2004 Standard)



Types of Returnable Packaging

Pallet Rental Systems

The concept of renting versus owning products is seen as a key element of a circular economy.

From a business perspective, one of the most common examples of this concept in action is in a pooling system for pallets.

Pallet pooling is one of the quickest & easiest ways to reduce your single use packaging.

Single use white wood pallets can make up a large portion of your packaging cost, as well as a larger portion of your packaging weight. It can also involve a significant waste management burden at your premises as particularly broken pallets that you have no means to repair can quickly build up as a result of poor quality single use pallets.

The repair and reuse model used with pallet rental systems helps to drastically reduce this waste when compared to single use pallets.

Some of the advantages of pallet pooling systems are as follows:

- No capital outlay for one way pallets means reduced operational costs.
- No pallet procurement or disposal programs to manage.
- Meets supply needs during times of seasonal or unexpected spikes as equipment is available on demand.
- Reduced environmental impact with reusable packaging.
- Saves on storage costs by holding less pallet inventory.

However there are a number of disadvantages such as the cost of lost pallets and control of inventory that need to be considered. These are discussed in more detail in section 3 *Considerations for Reusable Packaging* below.



Returnable Crates

Returnable totes exist in a number of styles which can be either open top or have an attached or separate lid.

Open Top Containers

In the case of open top crates, the product (in just its primary pack) is placed in the crate and these open crates are then stacked on to a pallet. The pallet is then wrapped with pallet wrap and will often be shipped with a dust cover to protect the top layer from dust or other airborne matter. The style pictured – a bale arm crate, is most commonly seen in the food industry for the transport of fresh produce and meat products.



Containers with Lids

Returnable containers with either attached or separate lids are often used for packaging applications such as for transporting items such as stationery, toys or for other applications such as the storage of documents. They are also commonly used in the pharmacy sector to distribute goods between central warehousing and stores within the pharmacy chain.

Containers with lids can either have the lid attached or alternatively the lid can be sold separately. They can generally be nested and can provide a volume reduction of up to 75%.



Types of Returnable Packaging

Making the right choice

The nature of the product involved and its primary packaging need to be considered in order to choose the correct crate style. Other important considerations when choosing the right container are as follows:

Nesting

Nesting can be important to enable a returnable system for two main reasons.

1. If the container nests into the one below it, then this can reduce the volume required for its transport and storage by 70 to 80% when empty. This can significantly reduce logistics costs.

Stacking containers do not provide this advantage and can occupy a lot more space as a result. You therefore end up carrying a lot of volume and not a lot of weight which comes at a significant cost on the return journey. Although the crates may be light weight, most transport companies will charge for the high volume / space that the crates occupy as it means that they won't have the space to carry other goods.

2. Another advantage of returnable crates is that they are designed to stack in a way that makes the load inherently more stable than single use packaging which may need a lot more tertiary packaging to achieve a similar stability. They are also robust and therefore superior to single use packaging in preventing damage to products. They therefore require less tertiary packaging such as single use layer pads, corner protectors or pallet wrap when compared to single use secondary packaging options.

Stacking Containers

Stacking containers are standard containers that do not fold or collapse after use and do not nest when empty. If considering this type of container, it is important that you consider whether you will have the space to store them internally and also that your overall costs may be higher for both storage and for the return journeys as you will not achieve any volume reduction when returning the empty crates.

Collapsible/ Folding

Another way to reduce the volume your returnable totes or pallet containers occupy in storage and transport is to make them collapsible so that they fold until almost fully flat. Such containers can reduce the volume these containers occupy by up to 80% and they therefore provide a saving on transport and storage costs. This can be applied to both totes and pallet containers.



Nesting



Stacking



Collapsible

Types of Returnable Packaging

Pallet Containers

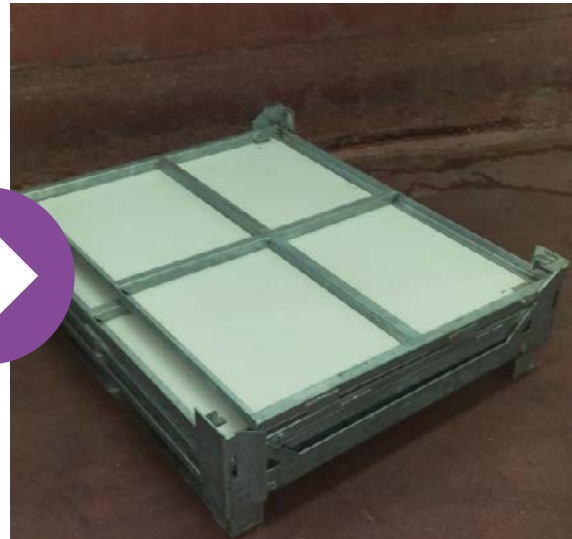
Returnable pallet containers have similar advantages to returnable totes however they also have some additional advantages in terms of packaging waste prevention when their application is suitable.

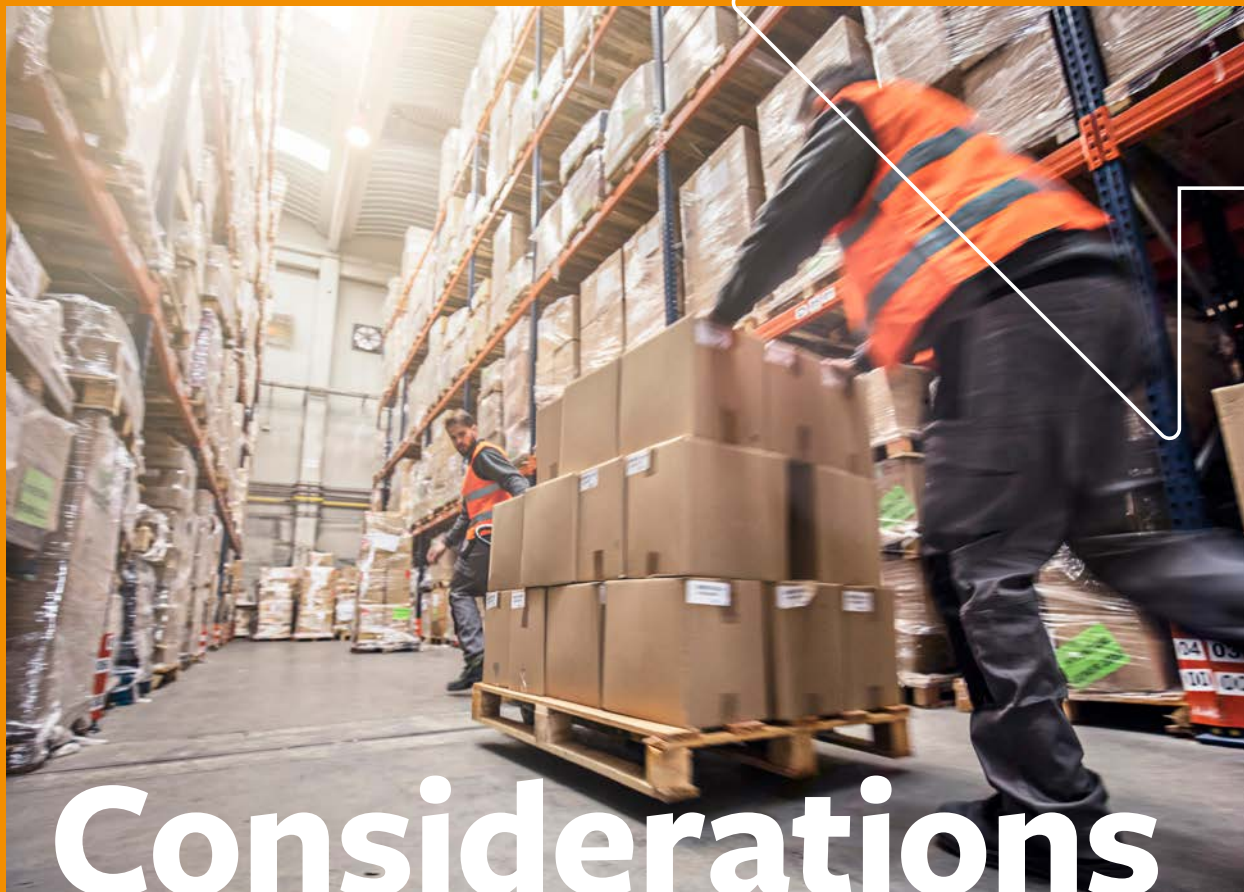
As pallet containers act as a single unit they usually eliminate secondary packaging completely and sometimes can even eliminate the use of primary packaging. One example of where these are quite commonly used is in the transport of meat for further cutting or processing into processed products such as sausages or burgers. Again containers can be collapsible so that they fold to reduce their volume for the return journey or can be nested such as in the case of the Multitank solution provided in Ireland by [Interpac Ltd.](#) To see Repak's case study in relation to the Multitank solution please [click here](#).

OPEN PALLET CONTAINER

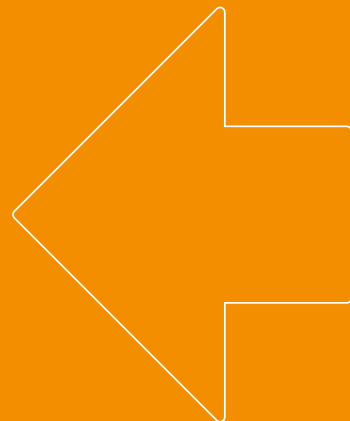


COLLAPSED PALLET CONTAINER





Considerations for Reusable Packaging



There are a number of issues to be considered if you are planning to move to returnable transport packaging systems (RTPs).

Upfront Costs

If you decide to move to returnable packaging it is also possible that you will require a moulded plastic container. You may therefore need to pay a manufacturer for the cost of a production mould upfront in order for you to ensure a guaranteed supply of the packaging you need. You will therefore need to examine the payback period for such an investment. It is possible to rent crates which can reduce costs.

Transport & Storage Costs

Transport costs can be one of the most significant expenses associated with returnable systems unless some of the issues covered in *making the right choice* are considered. It is essential to consider how your returnable packaging will come back to you as this will add significant cost if you need to arrange especially to have empty packaging picked up.

How much space will the packaging occupy both during the return journey and when it returns to the site?

You need to consider the style that best suits your business taking into account that certain styles cannot be nested or folded to reduce their size during transport.

Container Loss / Attrition Rate

It is important to consider that returnable pallets & containers are often not returned for a number of reasons such as theft, damage or businesses just not remembering to return them when you need them most. It is important to understand what your working stock requirements are and to ensure that you have a contingency for very busy periods.

Stocks may need to be replenished regularly to ensure that you have a sufficient quantity at all times.

You may also need to consider whether to apply a deposit on returnable packaging which is only refunded once the packaging has been returned by your customer. This can help to ensure that packaging returns are therefore maximised. The deposit amount needs to provide enough of a disincentive to the customer to hold on to your packaging for longer than necessary.

It is important to note that moving to returnable packaging will usually require a far heavier and robust pack than the single use equivalent. Due to the increased packaging weight it is important to note that reusable solutions will only be better for the environment than a single use solution if they last long periods and are used beyond a break even point where they make sense from both a waste reduction and carbon footprint point of view.

Considerations for Reusable Packaging

How will it be returned?

Returnable packaging is easiest to manage when:

1. You have a direct route between your premises and your customers or suppliers so that you can readily backhaul empty containers. Groupage may make this far more challenging.
2. The supply chain involved is local. For example it will be easier for a retailer to manage the return of returnable packaging if the supplier is operating on the island of Ireland.

Flexibility

Standard returnable crates tend to be used for certain categories in a business and as a solution are generally a one size fits all. That can provide some challenges in terms of matching a primary pack size to a crate size and therefore ensuring overall efficiency in pack footprint. Developing a suitable cardboard case can therefore be a far more efficient and flexible way to do this.

Washing

Hygiene requirements mean that a washing step is an essential element to consider for returnable plastic totes and crates and is particularly applicable for the food industry. Where a system for washing crates internally does not exist and is unlikely to be put in place a business such as Glan Arís or All Star Logistics can provide such a service.

Please see our Case Study highlighting the services provided by Glan Arís, a company owned by Repak member Donnelly Fruit & Veg Ltd.



Contact Us

For further information on returnable transport packaging systems please contact our Packaging Technologists **Brian Walsh** or **Colm Munnelly**.

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Case Studies

Introduction to the business

CHEP helps move more goods to more people, in more places than any other organisation on earth. Its pallets, crates and containers form the invisible backbone of the global supply chain and the world's biggest brands trust CHEP to help them transport their goods more efficiently, sustainably and safely.

As pioneers of the sharing economy, CHEP created one of the world's most sustainable logistics businesses through the share and reuse of its platforms under a model known as 'pooling'. CHEP primarily serves the fast-moving consumer goods (e.g. dry food, grocery, and health and personal care), fresh produce, beverage, retail and general manufacturing industries. CHEP employs approximately 11,000 people and believes in the power of collective intelligence through diversity, inclusion and teamwork. CHEP owns approximately 345 million pallets, crates and containers through a network of more than 750 service centres, supporting more than 500,000 customer touch-points for global brands such as Procter & Gamble, Sysco and Nestlé. CHEP is part of the Brambles Group and operates in approximately 60 countries with its largest operations in North America and Western Europe.

ENVIRONMENTAL SUSTAINABILITY

CHEP sources 100% of its timber from sustainable sources. The pooling model encourages the repair and reuse of pallets, recycling broken or damaged components, sending 0 to landfill. CHEP make every effort to operate their business in an environmentally sustainable manner.

Pooling - the combining and sharing of assets in a common effort - is by definition an environmentally sustainable concept, since asset utilization is maximized. CHEP has pooled pallets and containers since 1958. That's 63 years – and counting – of environmental stewardship.

Although CHEP's business model is inherently sustainable, there is an appetite to always do more. CHEP are working hard to achieve their 2025 targets centred around a vision **to pioneer regenerative supply chains**, restoring, replenishing then creating more value or capital for society and the environment than the business takes out.

CONTACT

Based in Finglas, Dublin, Chep pallets are the most commonly used pallet pooling system in Ireland. Please [click here](#) for more information on product options and the benefits of moving to Chep pallets or call +353 (0)1 836 2655.

Introduction to the business

Pooling Partners is Europe's number 1 integrated full-service pooler and producer of pallets and boxes.

With a history dating back to 1891, this Dutch family business operates three pooling networks in demanding supply chains including IPP Logipal Pool in retail and recycling supply chains and PRS Return System in the polymer sector.

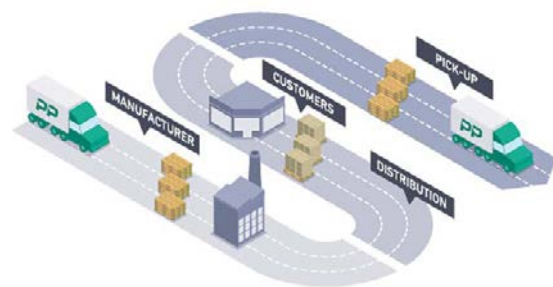
The IPP Logipal pool is a leading rental provider of pallets and boxes in fast moving consumer goods and industrial supply chains across Europe. Via an extensive service centre network, customers rent IPP pool pallets to store and deliver their brands. By deploying its pooling expertise in recovery and refurbishment, IPP Logipal provides its customers with pool pallets when and wherever they need them.

PRS Return System is an efficient and reliable pooling system for users of CP-type pallets in the demanding polymer and chemical sectors across Europe and Turkey. For nearly 20 years it has contributed to sustainability by strongly growing pallet re-use and reducing packaging waste.

Pooling Partners is a long-standing and leading exponent of circular economy models, promoting recovery and continual re-use of durable standard pallets and boxes in efficient and sustainable pooling systems. Its production facilities source from sustainably managed forests and produce and repair over 20 million pallets and boxes per annum from wood that is PEFC™ or FSC® certified.

The company has an annual turnover of ca. € 300 million and employs around 800 staff.

ONE-WAY TRIP - YOU PRODUCE. WE POOL.



For customers in fast moving consumer goods sectors we offer a simple One-Way trip system compatible with leading retail supply-chains and one which fulfils today's needs for simplicity and quality. Brand owners, manufacturers and growers faced with a list of daily challenges don't need to add pallets to that list.

How it works: Let us know the number of pallets you need. We will deliver what you ordered: on time, in full. Inform us when and where you have sent them. We'll do the rest.

We manage the collection of pallets at the end of your supply chain using an efficient collection and delivery network supporting our extensive service centre locations.

CONTACT

For further information on the services provided by Pooling Partners please [click here](#) or call +44 1676 524 000.

Introduction to the business

La Palette Rouge (LPR) offers a fully outsourced service which ensures that its customers always receive pallets in perfect condition from each of its 104 depots throughout Europe. LPR works with the main stakeholders of the FMCG sector and manages 20,000 drop-off points in 13 countries of Central and Western Europe.

As soon as an order is received, LPR organises delivery of the pallets to the customer. Since they have been inspected beforehand at LPR depots, they can be used immediately in all automated production and picking systems.

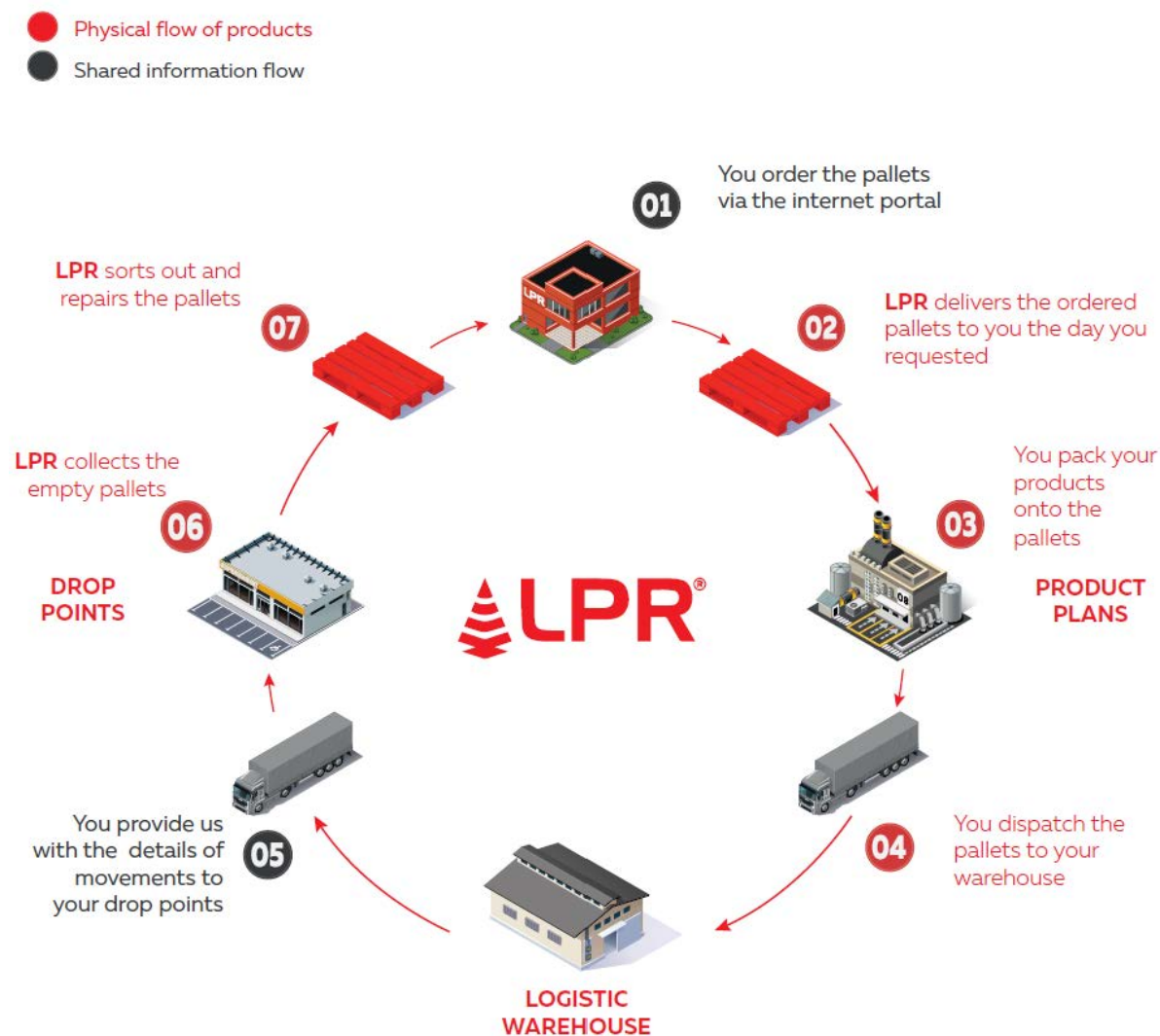
Using the dispatching information sent in by its customers, LPR tracks pallet flows and organizes the collection of empty pallets from the drop-off points: logistics hubs, major retailers and wholesalers.

After collection, the pallets are taken back to LPR depots for sorting and, if necessary, repaired according to strict quality requirements. They are then injected back into the circuit for a new rotation. LPR can thus guarantee customers a constant supply of very high quality pallets.

LPR services are quoted on a 'trip-fee' basis meaning that the customer is billed a single fee for each pallet delivered. The price covers all services, including delivery to the customer's premises and collection from the final user, sorting, repairing and reconditioning pallets in an LPR depot, rental costs for the entire rotation cycle and general management and administrative costs.



The LPR service is based on the flexibility and responsiveness of its teams, which are indispensable qualities for promptly meeting all of a customer's needs.



LPR was the first company in the pallet-pooling sector to have obtained PEFC certification (Programme for the Endorsement of Forest Certification), which guarantees that pallets are made of wood from sustainably-managed forests. With certified pallets, LPR's customers can benefit from PEFC credit transfers and optimise their own carbon footprint (Source lpr.eu).

CONTACT

The main contact in Ireland for the LPR pallet system are Goggins Transport. Please [click here](#) for more information or call +353 (0)1 836 5873.



Introduction to the business

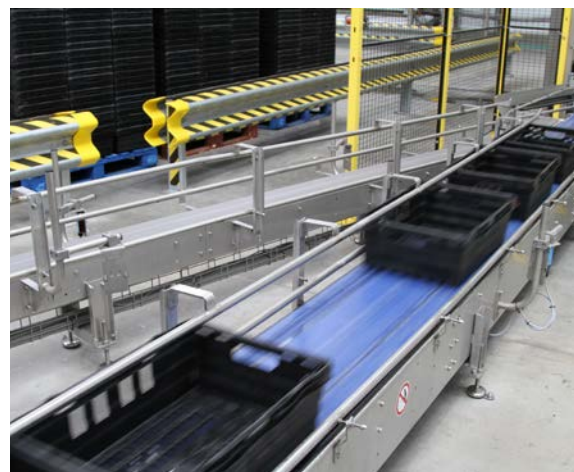
Glan Arís, established in 2002, is an Environmental Award-Winning subsidiary of the Donnelly Group. It is an Irish family-owned business and provides its customers with biologically clean returnable crates for the suitable containment and transportation of their food products, to the most exacting of food safety standards.

Glan Arís, (Irish for ‘clean again’) has two sites in Ireland. The Dublin facility is located at Food Central St. Margaret’s, in North County Dublin, adjacent to the Airport and the M1, M50, M2 and M3, and the Cork facility is located at Little Island, Co Cork, just off the N25. The award winning, purpose-built eco-friendly facility in Co Dublin, which opened in 2011, houses the most efficient automatic and technically advanced crate washing machine in the country.

The plant is both environmentally sensitive and energy efficient where they recycle water, harness heat recovery and re-use energy throughout the facility. The renewable energy systems have also helped to halve the company’s carbon footprint.

Returnable Transit Packaging (RTP), which the company specialises in, eliminates a great deal of cardboard and timber waste throughout the food industry and contributes greatly to protecting the environment whilst, at the same time improving food safety.

RTP is reused thousands of times against ‘one trip’ cardboard and it is totally recyclable at end of life. Glan Arís replaced 17m cardboard boxes in 2020 by providing reusable crates to food producers - that’s a saving of approx. 112,000 trees, in one year alone!



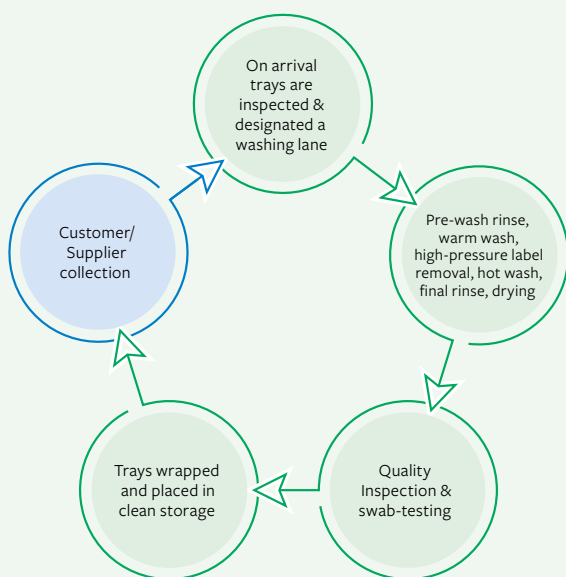


Diagram of a typical example of a large retailer RTP flow process



Diagram illustrating the internal process flow of returning crates to a Glan Arís depot

WHAT RETURNABLE PACKAGING TYPES ARE AVAILABLE?

Four sizes of **Maxineest Crates** are washed after every use and these include:

Deep	600 x 400 x 253mm
Standard	600 x 400 x 199mm
Shallow	600 x 400 x 106mm
Small	400 x 300 x 201mm

for carrying all fresh produce and meat & poultry products. Glan Arís provide a washing service for bread and confectionery trays too.

The company also supplies a range of **Plastic Pallets**:

Dusseldorf	800 x 600mm
Euro	1,200 x 800mm
Standard	1,200mm x 1,000mm

SERVICES PROVIDED

Delivering bespoke & innovative supply chain solutions to a range of businesses within the food industry including:

- Crate and pallet washing services.
- Crate and pallet management, pooling & rental services.
- Crate and pallet repair services.
- All supply chains have their complexities and present their own challenges – Glan Arís specialise in handling bespoke complex projects.

BENEFITS OF RTP

- Purpose built for shipping perishables.
- Better protection of product.
- Shelf ready packaging.
- Easier handling increases productivity whilst reducing manual handling injuries.
- Safer stacking and efficient palletising, lower transportation costs.
- Helps customers meet their sustainable goals.
- Reduces waste.
- Can be safely used in multiple temperature zones.



DO I NEED TO PAY FOR TOOLING UPFRONT?

Generally no, as Glan Arís offer a complete crate pooling option. Whilst Glan Arís do provide management and washing services to retailers who have invested in their own crate pools, they also rent and maintain their own Glan Arís pool. This saves time and money for clients who don't have the initial capital expenditure required to purchase their own crate pool, or facility and space to store such a pool. Upfront costs may apply for bespoke crates with non-standard dimensions.

ARE THERE DEPOSIT SYSTEMS TO HELP MAXIMISE RETURNS?

N/A – customers are responsible for managing the safe return of crates and pallets in their possession.

WHO DELIVERS / COLLECTS MY RETURNABLE PACKAGING?

Customers organise their own deliveries and collections to the Glan Arís sites.

HOW DO I GET STARTED?

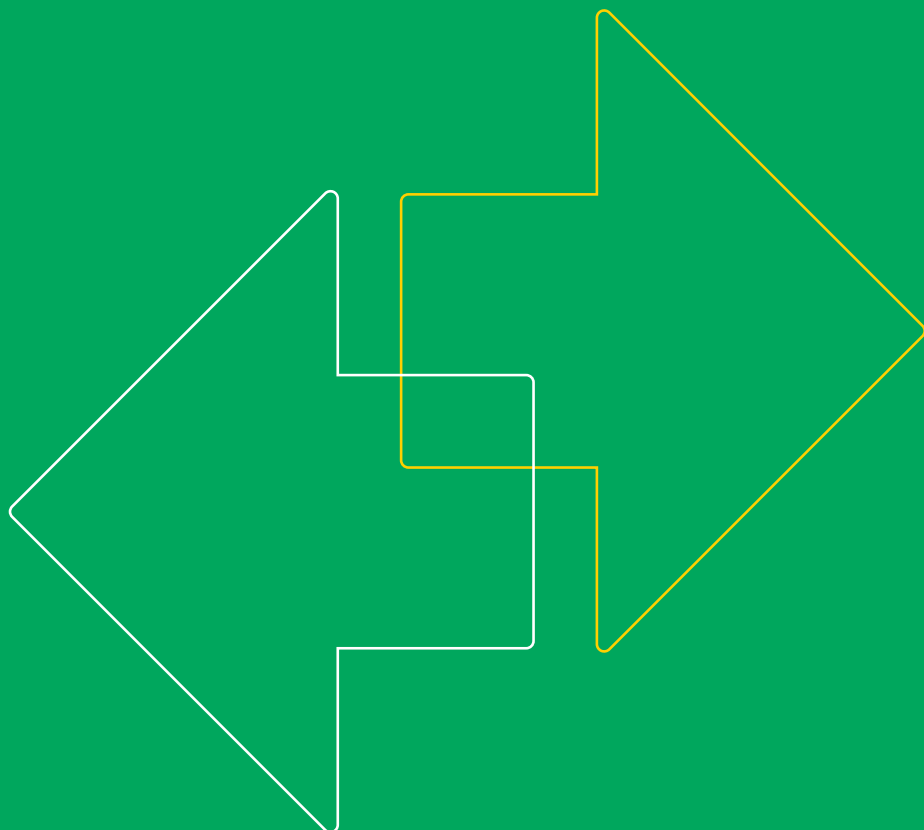
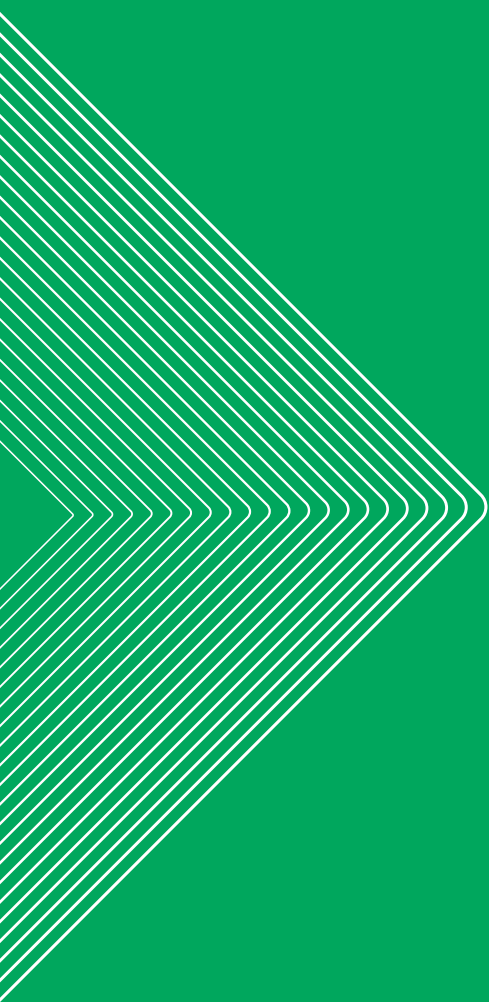
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