



## Best Practices for the Successful Implementation of Reusables in the Supply Chain

*This document is a summary of fundamental strategies and best practices gleaned from companies that have successfully implemented reusables in manufacturing and retail environments.*

### Clearly define the problem you want to solve

The first step in a reusables journey is to clearly define the problem that your company wants to solve. In other words, why do you want to change? A well-stated goal will help drive support for your project, and help you map the processes needed to achieve implementation of a reusable packaging system.

If you can't define your objective clearly, your project will likely fail. One company that did not articulate its goal well fell into a cycle of making small changes without achieving any strong results.



Common goals cited by users of reusables include:

- Reducing piece price cost
- Reducing damage to product
- Bringing in parts from suppliers in the highest density possible
- Reducing time or labor on the production line
- Keeping manufacturing as lean as possible
- Eliminating packaging waste including stretch wrapping and tape
- Eliminating skids
- Presenting parts more efficiently to assembly lines
- Reducing the number of touches on a part in material handling and/or on the assembly line
- Reducing transportation costs by allowing better cube
- Improving ergonomics
- Implementing fixed delivery routes by rightsizing of reusables

A retailer that has strong adoption throughout the supply chain stresses the importance of framing the need for reusables within an overarching company imperative that crosses all functions. "If we say it's about the environment, then someone says 'why does my department need to do that?' If it's about cost savings, then someone else says, 'where are the cost savings for my department?' If it's about milk and bread crates, then other departments don't see it as their responsibility. At our company, we understand that our reusables are about improving quality, and that concept applies to everyone."

The objective of delivering product without any damage consistently to retail stores can apply to any commodity, whether it is a food product or furniture, and regardless of where the item is being damaged: in production, delivery, or any other place in the supply chain.

To keep the objective of improving quality top of mind, the reusables project champion took photos of crushed corrugated boxes and the damage they caused to the products within them. He shared copies of the photos with everyone on the reusables change team and asked them to look at the images frequently to remind themselves of the project's objectives.

**BEST PRACTICE:**

- Have an "actual and factual why" and support it with images and data.



## Form a cross-functional team and find a champion

Form a strong cross-functional team with representation from every department and supply chain member who will touch the reusable, including:

- Material handling
- Operators
- People on the line
- Parts suppliers
- Production supervisors
- Facilitators
- Conveyance operators
- Distributors
- Packaging engineers
- People at retail outlets
- Procurement
- Store operations
- Retail and shrink groups
- Risk management

The designated team leader needs to be a believer and champion of the reusables initiative. If this is the first implementation and/or it is on a wide scale and involves multiple suppliers, ideally the leader should be dedicated full time to the effort through implementation. A champion at an appliance manufacturer described his role as “sales person” during the 8-month process it took to convince purchasing, inbound logistics, and decentralized plant operations to support the reusables strategy.

The average time period for starting a reusables initiative and getting to implementation at a company that has never used reusables is about one year. For companies that are familiar with reusables and are expanding their use, leaders will spend significantly less time, about 5 percent of their day, supported by the efforts of a packaging engineer who will establish processes and systems.

### **BEST PRACTICES:**

- Ask the head of each department to identify a person in their area to be on the reusables team. This gives the manager the option of designating someone else, yet keeps their department involved.
- Don't underestimate the time that will be required of the champion.
- Ideally, the champion for the reusables initiative is someone who has control or at least influence with budgets and operations for transportation, material handling, and packaging.



## Develop a holistic view of costs

Even though sustainability has become a corporate imperative, the widespread and effective adoption of reusables is often hampered by a lack of support from internal teams. Competing profit and loss centers are a barrier. Also, costs that resided elsewhere, like transportation, might be newly associated with the reusables program, making it appear that the initiative is increasing costs.

Overcoming these hurdles requires taking a holistic view of the supply chain in order to understand that costs gained in one area are more than offset by savings in another. This requires extensive data gathering and entering it into industry calculators.

One manufacturer planned to have suppliers buy the reusables and amortize the costs over time, adding the increased cost to the piece price. However, purchasing objected to the idea because their department's goal is to purchase pieces at the lowest price possible. The champion convinced purchasing to incorporate the price of expendables into each piece price, which hadn't happened before, to present an accurate picture of the actual cost. Additionally, the champion worked with purchasing to establish a minimum hurdle value to determine whether the return on reusables would be worth the company's time to work with an individual supplier. The company had estimated that it would take about \$2,000 in time and cost to help each supplier adopt the reusables program. The minimum hurdle value was set at a savings of \$17,000. Establishing the benchmark gave purchasing the confidence that the company's time and investment would result in substantial savings.

A reusables program, when looked at by function, could show an increase in one area, the transportation budget, for example. It may be necessary to increase the original budget for reusable containers to incorporate collapsible containers and analyze this against current and future fuel prices to determine the lowest overall cost. This sensitivity analysis allows the company to determine whether an increase in expenses drives the need for an increase in capital to keep total cost lower.

However, don't assume that transportation costs will increase. In the case of the retailer, inbound transportation to the DCs was cost neutral, and outbound transportation to retail stores gained a cost savings. The reusable containers provided a maximum cube for each pallet of product, requiring fewer pallets for store delivery. Fewer pallets means less loads to stores and transportation savings.

Companies that have already adopted a lean supply chain will have fewer barriers. Directors at these companies are already accustomed to reviewing overall results rather than looking only at the impact on a particular department.

### **BEST PRACTICE:**

- Identify and include allies in your efforts. Likely allies will come from quality and risk/personnel departments.



## Map your current condition and educate as you go

Ongoing and frequent communications with team members are essential. At times, the entire group will meet. Other meetings will only include members of a particular loop. Working together, the team maps the current process from start to finish. One manufacturer strongly recommends that members of the team conduct what they call a “Go See It” where they walk through the supply chain and make sure their process map details every nuance. For example, they observe how the current corrugated containers with parts from suppliers are pulled off the truck. How many days are containers sitting on storage racks waiting for assembly? What kind of warehouse racking is it sitting in? How many parts are line operators picking up? How much time does the bailer spend with the disposable packaging?

The produce retailer took a similar approach with a different twist. The champion identified all internal business units that would be affected by the changes and met with them individually. These included heads of produce, DC operations, transportation, risk management, store ops, shrink and damage, and the chief supply chain officer. He went to their work environment and showed them empty reusable containers and started the conversation about the changes that would be required. He did a “show and tell” with each department, asking them to pick up the reusable, stack and de-stack it, and walk it through their current operations.

Next, the retail champion made personal visits to the grocery stores where the rollout would begin. He initiated the conversation by asking them where they were seeing the most product damage, and then explained how the reusables program would resolve the issue, and discussed how it would impact their operations.

As you map your current state, note instances where your reusable will have a positive impact that will increase its return in areas you hadn’t considered, adding support to your business case. Examples at a manufacturer included eliminating a hilo on the production line and a bailer to break down empty disposables; both resulted in time savings. Other companies gained added benefits of decreased splinter injuries and back strains, and eliminated eye injuries caused by staples.

### **BEST PRACTICE:**

- Gather as much input as possible during the discovery phase. It will save you considerable time and expense later in the process.



## Work closely with suppliers and retailers

It is equally critical to visit parts suppliers and create a detailed map of their part flow. The reusable product you choose needs to work in their system, and not be an added cost. Involving your suppliers to make sure the reusable will work in their system and gaining their buy-in ahead of time is crucial.

Emphasize that the reusables program will have a positive impact on the supplier, when that is the case. The grocery retailer visited its grower suppliers, some who were soured on the concept of reusables because of their experience with another retailer. The champion spent a year visiting each grower of wet leafy produce. He took them to retail outlets to see the damaged condition that their produce arrived in. Most were shocked and discouraged to see the amount of produce that was wasted.

The retailer used the growers' previous experience with reusables as a learning opportunity. He observed their current processes, and asked them to identify the pain points and suggestions for improvements. Later he walked the growers through the new processes, including assembly and palletizing.

The value of the in-person visit cannot be understated. It has two significant outcomes that affect the success of the program. One, the champion learns the processes necessary to make the reusables work in the growers' environment, and two, the retailer gains the buy-in of the individual growers.

The retailer took a similar approach with its retail outlets, visiting the individual stores that would be part of the pilot. The stores saw storage of the dirty reusable containers as an obstacle. The champion asked them for suggestions. They arrived at a decision to limit the reusables to one pallet footprint, stacking them 75 inches high. He then created and distributed a diagram showing employees how to collapse and stack the used containers on a pallet.

When there is no direct supplier benefit, it is still important to meet with suppliers to help them understand the upcoming changes and to communicate why you are making the change.

Don't overlook transportation during your pre-implementation planning. This information should be recorded in your "Go See It" so it can be referred to when designing your reusable solution. Having a good grasp of how trucks are loaded, the size of trucks being used, and quantities of parts on trucks is key to capturing any possible savings associated with moving toward reusables. Bring samples to your transportation partners to get them thinking about the potential impact on their processes, and ask for their input.

### **BEST PRACTICE:**

- When possible, relate the benefits gained by reusables to the suppliers' goals. An outcome of improved protection for the supplier's product resonates with most suppliers.



## Create an ideal condition and map the changes it will require

After documenting the current condition, it's time to design the ideal condition and map the changes that will be required to get there. For some companies, this step takes place concurrently with the earlier stage of mapping the supply chain.

Examples of ideal conditions could include reducing time on the line and eliminating the movement of heavy boxes from a skid to a roller. Then map out exactly what needs to happen to achieve those ideals – along with the changes that need to occur to accommodate the reusables – at each step in the supply chain. The revised supply chain mapping should address:

- Process changes that must happen
- Roles that are impacted
- New equipment needed or existing equipment no longer needed
- Process for moving the reusable on and off trailers
- Process for getting the reusables to and from the line
- Whether and when reusable will be moved by people and its impact on weight and other design features
- Forklift/pallet jack compatibility
- Conveyor compatibility
- Process for moving reusables in stores
- Locations for storing clean and dirty reusables at all stops throughout the supply chain
- Transportation requirements
- Maintenance and repair of reusables
- Sanitation of reusables
- Recycling reusables end of life

The selection and/or design of the reusable will likely be concurrent with the above steps. The actual reusable could be a custom or standard tote or pallet, dunnage, or a combination. The supplier of the reusable asset should be closely involved at this point. Ask for their input on aspects you might be overlooking, and for suggestions on design improvements that might add to the value of the reusable. In addition, you need to determine whether you are purchasing, leasing, or pooling your reusables.

The contents placed on the pallet or within a tote also will impact the design and choice of the reusable as well as supporting dunnage. Special consideration needs to be given to products that are fragile, perishable or have static.



## Review, test, and test some more

Once you have a reusable that fits your criteria, it's time to execute pilot and pre-production runs internally and with external members of the supply chain. A frequent pilot model is a dual process wherein the reusables are running through the supply chain at the same time as expendables. One manufacturer puts about 4 skids of the potential reusable through the system along with the current boxes, turning the samples around 5 to 7 times.

At all points, the team members need to review and consider all changes that need to be made to accommodate the reusable. It is likely that more changes will be identified than were initially captured in the process map.

It is essential that the leader of the initiative frequently visits players in the supply chain and ask for detailed feedback. Can employees lift the reusables without injury? Do forklifts fit the pallet? Do the containers move easily on pallets and conveyor systems? This is also the time to consider changes to the design of the reusable. For example, if parts need to be pulled out in sequence, consider adding an indicator on the reusable saying "start here". The champion must emphasize repeatedly to everyone involved that now is the time to identify issues and request changes; it is cost prohibitive and difficult to change reusables after they have been ordered.

The retail supply chain executed a dual process, providing each grower with a small quantity of containers. After a time, the growers visited the distribution center and retail environments to observe and discuss how the processes were working. The site visits gave everyone an opportunity to discuss and resolve issues. It also furthered buy-in: everyone could see the improvement in the quality of the produce that was being delivered to the stores in the reusables.

In advance of the pilot, the retailer alerted drivers that the processes would be slower during the test phase. Trucking companies carried 2 to 3 loads daily during the testing phase.

Test the actual process repeatedly. It's a lot easier to fix the problems upfront than it is to go back and alter a process or make changes to your reusables. Pulling your reusables after full-scale implementation is under way to make a modification, like adding a hole in a container, will be costly and disruptive.

Using a cost analysis, continually evaluate whether you are achieving your initial stated goal and how well.

### **BEST PRACTICES:**

- When you've executed a successful pilot, require all stakeholders to sign off on the reusables initiative. The document demonstrates the stakeholders' support of moving forward and their approval to implement.
- Spend extra time on planning to get everything right up front.





## Implementation

If a pilot has been successful, implementation is primarily an expansion of the steps. However, be aware that the training and communication that was done during the pilot must be repeated. The concept of reusables and the accompanying process changes are new to the remaining DCs, stores, and manufacturing plants that were not part of the pilot. Communicate repeatedly the reason for the change, provide training materials, and make the champion available for calls and on-site visits as needed.

The retail champion engaged a supervisor at the pilot DC to create a video for other DCs that showed the change in process for order selection. The video included communications about the reasons for the change and a name and number to call with questions. Growers received diagrams on how to pack and palletize the containers. The diagrams were laminated so they could be brought out to the fields.

Getting suppliers to fully adopt the new processes and keep reusables moving through the system are significant challenges. The best route for success is to work collaboratively with suppliers from the beginning, just as you did with internal stakeholders. Possibly, there is no added benefit to suppliers, but work with them to develop the simplest and best processes possible. It is also important to create a supplier manual that details agreements, definitions, and processes. The manuals should be fully comprehensive to provide clear expectations and include specifications and details about:

- Standard returnable containers
- Non-standard returnable containers
- Design expectations for dunnage
- Part orientation, material, layers, etc.
- Approval process
- Loop size
- Standard interfaces
- Rack stacking pins, fork pocket specifications, caster specifications, etc.
- Load securing including banding, seatbelts and/or stretch wrap
- Process for deviation of policy when reusables are not available
- Labeling requirements
- Roles and responsibilities for purchasing containers, maintenance of containers, and disposal of containers at the end of the program

Most suppliers are willing to support a company's reusables initiative. However, there will be occasions when a supplier is having process or pricing issues that require additional discussions.

### **BEST PRACTICES:**

- Avoid pressure to rush the roll out. Remember that each new site is coming to the project without the benefit of previous communications and training. Rushing the roll out will ultimately slow down the overall implementation and give naysayers ammunition.

**BEST PRACTICES (Continued):**

- When a supplier is unwilling, require them to complete a data form that shows their concerns based upon facts, and not assumptions or feelings. The forms should help the supplier understand the data points and help them see the impact of the reusable program. The form should address data points and issues about manpower, space, ergonomics, material presentation, and cost.
- Don't be too quick to grant an exception to a supplier. Otherwise you will be in a position of managing multiple systems to accommodate expendable and reusable packaging, resulting in added labor and inefficiencies.



## Calculate the loop

Having an adequate supply of reusables available to all parties in the supply chain requires understanding and enforcing dwell times. By minimizing dwell time, you increase the number of round trips per year and increase your ROI.

It is critical to work closely with suppliers to calculate and agree upon the number of reusables they will receive and their dwell times. This should be a collaborative and formal process. Some suppliers will want to do extended production runs, tying up their share of reusables for longer than the agreed upon period. When a supplier holds on to reusables for too long, they short the quantity available to another member in the supply chain, causing a disruptive ripple effect. Calculators are available on the RPA website ([www.reusables.org](http://www.reusables.org)) to help companies compute the required number of reusables. Also, having a signed agreement and supplier packaging manual in place gives the originating company a source document to turn to and enforce the dwell times.

One auto manufacturer learned that suppliers often underestimated the amount of top caps and pallets they would need. The manufacturer communicated to suppliers that orders would often be only 1 or 2 layers and that suppliers needed to purchase enough top caps and pallets to accommodate the less-than-a-pallet orders. After establishing that process, the manufacturer did not receive another call asking for funding for more top caps and pallets.

In addition to dwell times, factor in transit time and time for preparing and returning the container for reuse. Also, calculate the times and amount of containers that won't be available due to cleaning and repair.

If you miscalculate the quantity, a supplier will resort to cardboard and that will impact operations at the receiving end that is set up for reusables. Have a quantity of "safety stock": an excess amount of reusables on hand to avoid running out.

### **BEST PRACTICES:**

- Use a robust loop calculator to understand the total cost. What is the cost impact of purchasing 10 percent more containers versus a disrupted supply chain due to insufficient quantity?
- Have a signed agreement and supplier packaging manual in place. These tools give the originating company a source document to turn to and enforce dwell times with suppliers.
- Keep a quantity of expendables in stock that are the same size as your reusables for unforeseen issues, like a delayed truck or an unexpected production run.



## Assign the cost of reusables

For containers that are owned, it is typical to amortize the cost over a 5-year period. However, sometimes the lead company owns the reusables; others require suppliers to buy them and amortize the cost.

An auto manufacturer that employed the second model developed an online packaging approval process to make sure that suppliers ordered the proper reusables and were receiving the price negotiated by the manufacturer. Suppliers also completed a cost data sheet so that the manufacturer understood the amount added to the piece price. The cost of the reusable was amortized, decreasing the piece price over time. The supplier agreement stipulated that when the reusables were fully amortized, the manufacturer had the right to buy the reusables for \$1. This kept the reusables under the control of the manufacturer and protected them in the event they wanted to change suppliers.

However, purchasing can be against having suppliers add the cost of reusables to piece prices. To overcome this objection, one manufacturer arranged to have a vendor buy the containers, saving the company from making a large capital investment and keeping the price out of the pieces. The manufacturer retained design and control of the packaging but did not own them outright.

## Refine your reusables system

As soon as you have your reusables process under way, it is time to evaluate and refine the reusables system. Determine whether the reusables are being damaged in any way, whether dwell times are too lengthy at any point in the supply chain, and if you have enough reusables. Document any savings in time or labor or other areas that you hadn't accounted for in your initial calculations.

When you have a solid system in place, consider additional areas to implement reusables. Remember that although reusables are now second nature to your company, it might be the first time for new suppliers or new retail outlets or manufacturing facilities. Follow the same processes of involving and educating them as you did with your initial roll out.