



An Expanding Palette of Pallet Choices

The **seven trends you need to know** before you choose your next pallet system.

Smart shippers know pallets are the key to unlocking all kinds of benefits, from process efficiency to better density to the improved safety of cargo and the people who handle it. Some 80 percent of all U.S. commerce is carried on pallets, making them an indispensable part of nearly every supply chain. That's why it's so important to gain a full understanding of current trends when shopping for a pallet system that will help optimize your supply chain operations.

Despite initial appearances, the two billion or so pallets circulating in the United States alone are far from identical; they vary in size, design, materials, reusability, sustainability, compliance with various industry standards, and more. Shippers must consider not only the physical properties of the pallets they choose, but also how they fit into the systems in which they will be used:

The material handling equipment, warehouse racks, trailers, and containers they will encounter in their own facilities, as well as those of their trading partners. They must also think about their lifecycles: How will they ensure the right pallets are in the right places in the right quantities at the right times? Who will be the right partner to deliver on those needs?

Keeping up on the latest trends in pallet systems helps shippers ensure they are reaping the best value from their pallets and pallet partners. Here are seven key developments to know about:

1 Pallet demand is rising.

The pallet market is tied closely to the economy and factors such as population growth and the rise in disposable income, according to TechNavio's report, *Pallet Market in the U.S. 2014-2018*. While the economic downturn slowed growth between 2007 and 2012, TechNavio expects increases as the economy improves.

2 Size choices are wide, and expanding.

Geography and industry largely dictate pallet size. The International Organization for Standardization (ISO) maintains six standards for pallet dimensions to account for sizes commonly used in various countries.

In the United States, the 40-inch by 48-inch standard adopted by the Grocery Manufacturers Association is the most common size, but other industries have different needs. Chemicals, for instance, favor 48 x 42 inches, while paint moves on 42 x 42s.

Retail sometimes uses 48 x 20 or other streamlined sizes to make it more efficient to move goods directly from truck to store floor as store sizes shrink. To meet retailers' new demands, PECO Pallet, an Irvington, N.Y.-based North American pallet rental services provider, recently introduced a half-size (48-inches x 20-inches) block pallet, ideal for in-store merchandise displays and end-cap promotions, which can be used for shipments in Canada.

ORBIS Corporation, a subsidiary of Oconomowoc, Wis.-based Menasha Corporation, also reports seeing a trend for small format pallets for retail shipments. Nearly 60 percent of stores opened in the next five years will be small format, and with this growth, companies are looking for ways to reduce unloading time and speed up merchandising time in these smaller stores that typically have narrow doors and no receiving dock. To answer that need, ORBIS recently launched a 42-inch x 30-inch Small Format Distribution Pallet, which minimizes touches, allowing drivers and store employees to optimize the delivery and merchandising process. This also means employees can spend more time assisting customers.

ORBIS also sees trends related to cleanability to support food safety initiatives. ORBIS offers several highly hygienic pallets that are easy to clean and interface well with automation.

Another new option in pallet choices is fabric dunnage, a

combination of ergonomically friendly dunnage materials designed to be a uniquely flexible and customizable solution for challenging packaging requirements. This follows the recent rebranding of the company's entire line of protective dunnage as ORBIShield™.

Assembly manufacturers are increasingly turning to fabric as a dunnage choice due to its ability to protect parts of various sizes, complex geometry, and Class-A surfaces. Fabric provides a favorable alternative for companies that need to ship a large, and often



ORBIS Corporation's Small-Format HP Pallet is designed to optimize the supply chain of small footprint retailers by eliminating product touches during the order replenishment process - from distribution center to store to floor.

changing, variety of components. In certain applications, fabric dunnage is the best option for custom protective interior dunnage. ORBIS is addressing this move by manufacturing a full line of fabric dunnage.

3 Preferences are shifting to block designs over stringers.

The pallet industry is seeing a shift in preference from stringer to block styles. Large retailers, most notably Costco and Walmart, are helping to drive this shift through block pallet requirements, according to TechNavio, which also predicts block pallets will account for a large proportion of the market by 2018.

One pallet maker using the block design is PECO, which offers its distinctive red 48-inch x 40-inch wood block pallets with four-way entry for ease of use as they move through the supply chains of major grocery and consumer goods manufacturers throughout North America. "True four-way block pallets can be stacked and transported more efficiently, which reduces emissions and fuel consumption," says Adrian Potgieter, senior vice president, sales for PECO.

4 Wood dominates, but plastic is growing fast.

Pallets can be made of metal, paper, recycled materials, or even niche materials such as presswood and corrugated. But for many shippers, the pallet decision comes down to plastic vs. wood. Wood pallets are more widely used, accounting for as much as 46 percent of total U.S. hardwood lumber production,

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but plastic pallet use is growing more quickly.

Orlando-based pallet pooling and rental service provider Intelligent Global Pooling Systems (iGPS) uses plastic pallets measuring 48-inches x 40-inches that meet or exceed Grocery Manufacturers of America and National Institute of Occupational Safety standards. The company says its plastic pallets weigh less than 50 pounds, are about 30 percent lighter than wood alternatives, and don't shed debris, such as broken pieces of wood or loose nails.

In addition, iGPS pallets don't absorb liquids, are impervious to infestation, and are 100-percent recyclable. iGPS plastic pallets flow through palletizers and stretch-wrap machines easily, the company says, with few break-downs and back-ups. Pallets are cleaned as they pass through the depot network, which works well for product sensitive manufacturing areas.

"There are validated cost efficiencies available that can only come from using plastic pallets that are approximately 20 pounds lighter, have no missing leading edges, and allow for more weight to be shipped with better stability due to a more reliable pallet perimeter and our cruciform bottom board design," says Jeffrey Liebesman, CEO of iGPS Logistics.

Despite the benefits of plastic, wood pallets remain popular for the benefits they offer. PECO's wood pallets, for example, are rated at 2,800-pound capacity and edge-rackable.

"Our pallets are carefully inspected, cleaned, and maintained every time they cycle through a depot, so we ship full truckloads of pallets that are ready to use and don't require extra sorting time," says Potgieter. Higher quality wood pallets also work smoothly in automated processing lines, he adds.

"Recent volatility in lumber pricing, however, is affecting the entire wood pallet industry and is generating a greater interest in alternative pallet materials," says Potgieter. Because of this, PECO has developed prototypes of both all-plastic and wood/plastic



iGPS offers all-plastic pallets with embedded radio frequency identification tags.

hybrid models that are currently in field testing.

ORBIS offers standard pallets in polyethylene and polypropylene plastic, in three major styles: nestable, stackable, and rackable in footprints from 24-inches x 24-inches to 48-inches x 72-inches. The company also offers metal and X-ray detectable, fire retardant, or FDA-approved materials. "While many standard plastic pallets are available, plastic pallets also have the ability to be custom designed for nearly any application, if the return on investment is evident," notes Curt Most, senior marketing manager for ORBIS Corporation.

5 As sustainability importance rises, environmental considerations are coming into play.

As with most products, determining what pallet material fits best with sustainability goals, in addition to fulfilling supply chain requirements, is a complex exercise. Each material delivers both benefits and trade-offs, and pallet system operators can offer detailed data to use in this calculation.

Lighter pallets mean less fuel consumption, reduced carbon footprint, and sometimes more product transported per truckload, according to iGPS. Other factors to consider, says Liebesman, are the impact of lower customer product costs when shipped on an iGPS pallet, in addition to reduced pallet damage, resulting in less

Piling on the Benefits

By optimizing their pallet selection, shippers can reap multiple benefits, according to Curt Most, senior marketing manager for ORBIS Corporation. Among them:

- Reduced cost per trip.
- Repeatable performance. As today's distribution centers become more automated, plastic pallets reduce system downtime that can happen with inconsistently sized platforms. Because plastic pallets are molded, they retain consistent sizing throughout the life of the pallet.
- Hygiene and cleanliness are top priorities for today's distribution centers. Plastic pallets are a hygienic solution for food applications, as well as beverage and pharmaceutical applications, because they are produced from virgin material and are easy to clean, with features such as flow-through decks and drain holes.
- Reusable plastic pallets can be a highly sustainable solution. They can last many trips when compared to

alternative pallets, and are fully recyclable at the end of their service life, resulting in no solid waste in landfills.

■ Reusable plastic pallets provide economic value. With a long service life, their return on investment can take just a few months, and then the user has an asset in its system that continues to provide value for years to come. Long life and reusability equal rapid and positive return on investment.

■ Safety and ergonomics with contoured surfaces and design.

It is important to treat pallets as assets that have significant value over their service life, and to understand the cost-per-trip over the life of the pallet, Most suggests. He also recommends looking at the softer benefits such as worker handling, improved warehouse space utilization, and automation integration. Through re-use, pallets can bring economic benefit, as well as a variety of other important business benefits.

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PECO's high-quality #2 grade douglas fir and southern yellow pine wood is responsibly harvested in North America. "Switching from single-use white wood pallets to reusable block pallets is an excellent way for companies to improve their environmental sustainability," says Potgieter. "PECO's sturdy wood block pallets are designed for continued reuse, and our strict maintenance standards extend pallet life over 10 years. And all PECO pallets are fully recycled once they have reached the end of their useful life into mulch or livestock bedding, and even the nails are removed with magnets and recycled. Nothing goes to the landfill."

ORBIS uses its proprietary Environmental Analysis Tool, which calculates the environmental impacts of different pallet scenarios. The company works with customers to compare their current packaging to future plastic packaging so they can identify the impacts on solid waste, energy usage, and greenhouse gas emissions.

6 Pallet pools are growing.

Pallet pools can be an excellent way to serve the needs of an entire supply chain with a pallet tailor-made for the properties of its products. Ironically, pallets both facilitate logistics and require logistics: pallet systems must be carefully managed to not only ensure the right pallets are in the right places at the right times, but that they are properly cleaned and kept in good repair. Some companies that ship only locally form their own pallet pools, but more commonly, companies turn to third-party pallet pool operators, which saw a boost in business when Costco and Walmart mandated block style pallets.

It's important to understand how third-party pallet pool operators manage their fleets so that their services and business processes match customer needs.

Understanding the entire supply chain is critical to a successful pallet pool, as is working with all supply chain partners on the program, says Most.

"It's extremely important to consider how pooled pallets are maintained," concurs Potgieter, who calls PECO's quality standards the strictest in the industry. "We are the only pooled pallet provider that inspects, cleans, and repairs pallets every time they

Making the Right Choice

Choosing the right reusable pallet depends on the pallet program's application, specific needs, and objectives. To help guide shippers toward the best choice for their operations, ORBIS Corporation asks prospective customers the following types of questions:

- What type of product are you shipping/storing (food, cartons, frozen)?
- To determine load capacity, how much does it weigh?
- What is the load distribution?
- What are the cleanliness requirements?
- Who are your supply chain partners for inbound and outbound shipments?
- What are the products' unique environmental factors (freezer, refrigerated, indoor/outdoor storage)?
- How will it interface with automation?
- How will it be used? As work in process, storage, racking, or distribution?
- How many trips do you make in a week/month/year?
- What is the trip distance?
- How will the pallet be returned to point of origin?
- What footprint is required?

cycle through our depots,” he notes. “Our customers get consistent, high-quality pallets in every load.”

Liebesman confirms iGPS’s strong commitment to ensuring that pallet quality is maintained to the highest standard, which is reinforced by a pattern of continued investment, and research and development at the leading edge of design and technology. A customer-centric culture focused on creating strong supply chain relationships is critical, he adds.

“Building an efficient and effectively optimized national, and ultimately global, pooling network requires working continuously with the marketplace to maximize pallet turns and asset utilization, and developing world-class asset management and recovery systems, processes, and controls to reduce losses and improve turns and utilization,” Liebesman says.

7 Pallets are going high-tech.

RFID chips embedded in some pallets, such as those from iGPS, enable the pallet’s unique serial number or Global Returnable Asset Identifier (GRAI) to be read by RFID readers, which don’t require a line of sight to the tag. They also encode that information into the pallet’s bar code.

Pallet management also takes advantage of advances in technology. PECO Red◊Link™, the company’s proprietary online pallet management tool, enables users to log in 24 hours a day to place orders, check delivery dates, view invoices, or generate useful at-a-glance reports. Easy access to the same information the vendor uses enables provider and customer to collaborate to manage pallet

flows, identify problem areas, and find new ways to reduce costs.

iGPS offers customers the opportunity to manage their pallet reporting process using RFID tracking capability, as well as via batch tracking pallet management processes.

“Adding batch tracking was a direct response to listening to customers and recognizing that it’s a far more common practice in today’s supply chain,” says Liebesman. “We work hard to foster a shared respect for two-way reporting disciplines to ensure that our customers’ pallet balances are kept accurate, and that we deal with any exceptions within an agreed upon, but short, time. We capture and measure all of these metrics as part of a KPI process, and report monthly to our customers.”

Choosing Wisely Pays Dividends

Shippers need pallets that are clean and in good repair, work well for the products they will carry and the equipment and facilities they will encounter, and are present in the right places at the right times to meet demand. ORBIS works to minimize risk by working with all stakeholders prior to pallet selection. “We work together to find the best pallet for the application, then do a small pilot program and train the users,” says Most. “We encourage companies to treat pallets as assets, so we help with training and handling.”

No matter what kind of pallet or vendor you choose, selecting carefully can positively impact productivity, safety, efficiency, waste, and cost, and enhance sustainability goals while keeping goods intact and moving. ■



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