



# Asset Recovery

GREEN LOGISTICS: SUSTAINABLE 3PL PRACTICES FOR REVERSE LOGISTICS  
AND ASSET MANAGEMENT



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# Green Logistics:

## Sustainable 3PL Practices for Reverse Logistics and Asset Management

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A WHITE PAPER BY ATC LOGISTICS & ELECTRONICS

### Introduction

Now more than ever, electronic manufacturers are in a unique position to generate revenue and improve corporate reputation as a “green” company. With social, legal and marketplace ramifications, operating in an environmentally sound manner is no passing fad. While there is tremendous popularity in this movement, there remains a host of slow adopters. As a result, legitimate market share can still be gained for progressive-minded manufacturers.

Because the reduction of electronic waste (e-waste) is now a priority for consumers and lawmakers, opportunities and pitfalls have been created for manufacturers. According to the U.S. Environmental Protection Agency, in 2007, of the 2.25 million tons of consumer e-waste, such as cell phones, televisions, computers and accessories, only 414,000 tons, or 18 percent, were collected for recycling. The remaining 82 percent, 1.84 million tons, were mainly disposed of in landfills.

This has prompted a myriad of rules and regulations to limit these staggering numbers. While there is no federal legislation in the U.S. mandating recycling of e-waste, many states and municipalities have issued extensive regulations to stem the tide on a local level. Further, it is a safe assumption that it is only a matter time before Congress enacts its own

standards that will result in even more extensive oversight and mandates.

In contrast, the European Union (EU) has been more aggressive to control e-waste and promises to do even more. In December 2008, the entity proposed revisions to its directives on electrical and electronic equipment to address the growing stream of waste by establishing expanded collection targets.

The creation and enforcement of these standards are a reflection of the general public's sentiment, which seeks to preserve the environment for future generations. As an extension, they are also demanding that the companies they do business with have a commitment to reducing negative impact on the environment.

The popularity of electronic devices is increasing at an accelerated pace, with the advent of Smartphones, PDAs and GPS units. As a result, electronics manufacturers are now obligated to face the reality of more waste, along with a public mindset that demands environmental responsibility. Organizations that enact policies and procedures proactively will be better positioned to respond to new laws and enjoy the goodwill of the public by being recognized as environmental stewards.

## Creating Opportunity

Electronics manufacturers are fixated on R&D, customer retention and expanding market share. As such, many do not wish to invest the time or internal resources necessary to manage the complexities of waste reduction, keep pace with constantly evolving regulations, and implement creative strategies that can create new revenue streams from discarded materials.

A comprehensive third-party logistics (3PL) provider can work with a manufacturer to establish effective reverse logistics operations. They have the expertise to identify viable markets, for both devices and components, to prevent items from reaching landfills. Plus, a 3PL has the capacity to manage tremendous volume that could potentially overwhelm a manufacturer's operations.

The 3PL can help a manufacturer avoid the fixed costs inherent with a supply chain operation, such as technology systems, facilities, personnel and the associated overhead. Regardless of the size of the organization, a 3PL can create tremendous efficiencies. Small organizations can look to their partner to manage the complete supply chain, while larger manufacturers can work with them on a selective basis to supplement internal initiatives when volume and demand increases. The right 3PL partner should be able to offer a customized program to fulfill any need.

Recouping costs and generating revenue from returned products is an ideal scenario. However, incurring additional expense in this process is not an attractive option. There must be a strategic approach involving both reverse logistics and asset management to take full advantage of the process, coupled with top-down organizational commitment.

A 3PL can collaborate with its customers to determine the best course of action to maximize the value of returned items. But the process starts with a manufacturer's organizational commitment, and what they expect to achieve from a reverse logistics and asset management program.

Leadership must decide what investments are willing to be made, then work with the 3PL to determine what products are viable for repair and refurbishment, or component harvesting. Is the goal for the operation to simply break even, or produce revenue? This alignment will help the 3PL to apply the appropriate solution. Any approach will involve start-up costs, that transitions to the break-even point, and ultimately (if possible) profitability.

### GREEN TRANSLATION

In terms of refurbishment processes, profitability is measured on a different scale. It translates to obtaining revenue from a returned device that would otherwise have no value. If manufacturers can work with a 3PL to refurbish a device by spending two dollars, to later sell it for \$10, a "profit" is made, even if the device was originally worth \$90.

Sometimes a refurbished product can recover almost all of the original costs, depending on its popularity and the availability of new units. Although full market value isn't always achieved, revenue can still be generated to help reduce operational expense.

## Reverse Logistics

A comprehensive reverse logistics process is the foundation for reducing e-waste and mitigating environmental impact. The 3PL should be expected to develop processes that match the unique organizational needs of each customer, keeping in mind their product set and consumer base. This includes efficiently managing the returns process and sorting materials for refurbishment or component harvesting.

If a manufacturer already has collection processes in place for returned devices, including retail locations, or direct consumer shipments, the 3PL can manage and refine the existing processes. The 3PL can also manage returns in a centralized location that can create economy of scale among a cross section of customers. By organizing common materials inherent to electronics, such as plastics, metals and glass, transportation costs can be reduced when shipping to recyclers, and the savings passed on to manufacturers.

### WHEN TO REFURBISH

Refurbishment might not make sense for every product, especially if newer versions are still thriving in the market place. It is not advisable to pit refurbished items against newer versions, which can devalue the primary unit.

It is better to wait for popularity to wane on existing products before grabbing market share with refurbished units. Manufacturers should coordinate with 3PLs to determine the best approach for what units to place on the secondary market and just as important, when.

## Repair and Refurbishment

Repair and refurbishment operations are an inherently green concept that keeps devices in the supply chain, creating revenue either through secondary markets, or warranty exchanges. It is important to work with a 3PL with in-depth knowledge of the electronics industry that possesses the ability to economically manage this function.

Occasionally, this process can be relatively easy and inexpensive. Many devices are returned with little or no defects as a result of buyer's remorse, etc. In these situations, they can be cleaned, polished and transitioned back to customers in an accelerated timeframe.

Other devices need to be evaluated to determine if a repair is economically feasible. Conducting "triage" in this situation can assess functionality to determine if repair is a cost effective solution and if so, what work needs to be performed. An advanced 3PL can then repair the unit and conduct testing to ensure

the product meets manufacturers specifications. It can then be injected back into the marketplace making revenue, instead of waste.

Extra care is needed for devices such as cell phones, and other equipment, that can hold personal information. All data should be permanently erased from these devices to ensure customer privacy. Manufacturers must have assurances from their 3PL that this information is properly discarded to prevent identity theft and avoid consumer backlash.

The repair and refurbishment process will also require the acquisition of spare parts. 3PL experts can work with manufacturers to plan and forecast what parts are needed, and when. If there is an influx of returns that coincide with special promotions or holiday seasons, the 3PL must be prepared with adequate parts to facilitate the refurbishment process in a timely manner.

## DSL MINI CASE STUDY

With high demand products, an accomplished 3PL can manage forward and reverse logistics, in addition to test & repair and kitting & packaging services, to keep them moving at high velocity. A well-known distributor of DSL modems used this specialization to its advantage and significantly reduced e-waste, while lowering expenditures on new equipment.

Modems are collected by the 3PL for warranty repair, or customer returns, and complete diagnostic testing performed. Accessories such as cords, stands, filters and wireless adapters are also tested. For modems that pass strict quality control standards, basic cosmetic repairs are conducted and the unit is repackaged with new labeling. The accessories found to be in working order are

repackaged and merged with both refurbished units and new orders. Equipment that doesn't meet manufacturer standards, or is deemed beyond economic repair, is disassembled and processed for recycling.

With the 3PL's efficient services, refurbished modems and accessories reenter the supply chain in less than 36 hours. In all, the 3PL processes a half-million DSL units and more than three million accessories annually—about 25 percent of distributor's overall volume. This equates to approximately \$17 million of merchandise injected back into the supply chain in lieu of new purchases, representing substantial savings to the bottom line of the distributor. The remaining equipment and accessories are recycled, or responsibly disposed of to mitigate e-waste.

## Going to Auction

If repairs to a device can't be economically made, there is still opportunity to avoid the worst-case scenario of creating e-waste. A quality 3PL will have the capacity to efficiently disassemble components and organize them according to material type.

To keep this potentially hazardous material out of the landfill, glass and plastics, as well as ferrous and heavy metals, can be collected in bulk and auctioned to offset processing costs. This should be coordinated by the 3PL, who works with pre-screened asset management vendors to execute the auction process.

As a bonus, a 3PL with testing capabilities can extract parts such as screens, batteries and other accessories to determine if they meet manufacturer's specifications. If so, they can then be utilized for refurbishment to

further reduce repair costs, or auctioned at a higher price because other companies will pay more for operational equipment.

Auctions should be strategically timed to gain the most value. If certain quantities of components are plentiful, it is wise to hold off until supplies are low to generate the most value. A knowledgeable 3PL and its asset management partner will be able to counsel manufacturers as to the best time to unload specific material for the highest possible gain.

Whether organizing materials in bulk to be grinded down or smelted, to collecting viable parts that can be reused, selling items at auction is an excellent approach to generate revenue while avoiding waste creation.

## Asset Management

A sound 3PL will have preexisting relationships with reliable asset management vendors that can responsibly process these components to achieve maximum value. This is important, because any misstep with recovered material, such as improper disposal, can create significant liability issues for manufacturers.

There are currently no regulatory barriers for establishing a recycling company. As such, there are many unscrupulous providers that mismanage this material, from illegally dumping in landfills, to

covertly transporting the material to foreign countries for disassembly that is detrimental to the environment, as well as workers.

If authorities detect any of these nefarious techniques, not only will the so-called recycling company be held accountable, but there could also be civil and criminal penalties for manufacturers. It is important that asset managers have a history of complying with all appropriate reporting and documentation protocols to verify what materials were handled and how they were processed.

## Battery Management

### MINI CASE STUDY

A 3PL specialist implemented an innovative refurbishment strategy on behalf of a consumer electronics client focusing on batteries recovered through the reverse logistics process. Traditionally, these batteries were directed to a recycler for destruction, while new units were purchased to support the refurbishment program.

The 3PL determined that a vast number of these batteries were suitable to be reused if properly tested for quality control. They then assessed the viability of each battery to ensure compliance with manufacturer specifications. Those that qualified were used to power devices that reentered the supply chain through warranty returns or secondary markets. This helped to eliminate waste, and reduced the overall expense of the refurbishment operation.

An initiative such as this can translate into extensive savings, rather than new inventory purchases. However, it requires a skilled 3PL with the expertise and resources to recover and test batteries on a grand scale for maximum economic benefit.

## Selecting a 3PL for Reverse Logistics & Asset Management:

Working with a 3PL partner to manage reverse logistics and asset management is a major decision. There can be serious legal ramifications and damaged corporate reputation with any miscalculation. Accordingly, serious consideration must be paid before making a decision. The following advice can help select the right partner:

- 1) Seek an established provider with industry experience and verifiable references.
- 2) Work with an organization that understands and embraces "green" concepts and corporate responsibility that can help a customer develop a comprehensive program in a cost-effective and efficient manner.
- 3) A 3PL should have closed-loop capability, with the capacity to evaluate validity of refurbishment, conduct the technical work, and identify markets for the repaired units.
- 4) Prospective partners should have centralized facilities to collect and sort materials for recycling, with the experience to maximize the value of these assets at auction.
- 5) Identify a provider with relationships in place with reliable recycling and asset management partners. The partner should have a spotless track record of conforming to all regulations for recycling and disposal.
- 6) Ensure that both the 3PL and its asset management partner have ISO certification, and are committed to ongoing organizational improvements.

# “Green” Extras

FOR MANUFACTURERS



Environmental responsibility begins in the design process. Manufacturers should analyze every step of a device’s lifecycle through the lens of sustainability. The EU requires manufacturers to detail end-of-life processes before products are introduced.



Make sure products are conducive to efficient repair. Components with potential for replacement should be easily accessible to accelerate the process.



Consider developing devices with parts that are easy to separate and disassemble for asset recovery, as opposed to destruction and smelting. This saves time and reduces environmental impact.



Raw materials left over from the manufacturing process can be collected and sent to auction if they are no longer usable.

## Forging Ahead

While waste reduction has been a priority on the manufacturing landscape for years, it has evolved into a far more consequential endeavor with the current global regulatory requirements gaining momentum. Environmental governance is ever increasing, with controls tightening at an almost exponential rate. Forward-thinking companies should take steps now to develop a sustainable operation that is better suited to achieve compliance as more regulations emerge.

A specialized 3PL with advanced reverse logistics and test & repair capabilities that has developed strategic partnerships with qualified asset management companies can lift this burden so manufacturers can focus on core competencies.

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### About ATC Logistics & Electronics

ATC Logistics & Electronics (ATCLE), is a premier provider of third party logistics (3PL) and supply chain services. The company specializes in forward logistics, reverse logistics, asset recovery, test & repair, kitting & packaging and value-added services for high-velocity, high-tech devices, in addition to other equipment and components. Industry focus includes wireless, broadband, electronics, medical, industrial and automotive. ATCLE’s knowledge, expertise, IT capabilities and 99.5 percent service and quality levels enable its customers to streamline supply chain efficiency and enhance growth and profit. With a customer roster including AT&T, GM, LG, Pantech and TomTom, ATCLE raises the standard for quality, service and performance.

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