

# Essentials of asset management

**A Zetes  
white paper**



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## Introduction

Across industry, within food or pharmaceutical production, high tech manufacturing, logistics service provision and healthcare, asset tracking is a central goal of good supply chain management. Whether the assets being tracked are people, raw materials, work in progress or finished goods, essential scientific equipment or re-useable plastic containers employed during transportation and shipping, asset management is important. It enables any business or public service provider to achieve strategic and operational goals through centralised asset planning and the greater visibility, utilisation and control this brings. In this sense, the benefits of asset tracking are synergistic, whereby the positive gains derived from achieving the whole are greater than its constituent parts.

### RIGHT TIME, RIGHT PLACE MEANS LOWER COSTS

Improved visibility - ensuring assets are always in the right place at the right time - is an overarching result of asset tracking, which in turn, delivers significant cost reduction benefits including improved productivity, lower costs and fewer errors. For instance, using auto ID technology, any assets can effectively be traced and, armed with the right information, process efficiency or quality can be improved, inventory levels or re-purchase rates controlled and fleet sizes reduced. In turn, the return on assets employed can be significantly higher than originally forecast. This is achieved through a combination of factors - lower losses through theft, downtime or wastage and improved decision-making. Additionally, an increasingly important consideration when undertaking asset management is the prevention of counterfeiting.

### ASSET TRACKING FOR BRAND REPUTATION MANAGEMENT

In 2010, European customs officials seized double their previous year's haul of counterfeit goods according to reports in The Economist. Experts attribute this increase to the rise of ecommerce and an increasingly globalised supply chain.

Added to this, the recent economic downturn and tighter household budgets have made cheaper, fake alternatives more appealing. Brand owners and manufacturers need to respond to these threats with asset management strategies that minimise losses in the short term and protect the reputation of a manufacturer for authenticity longer term. In the apparel industry, the use of asset management systems to prevent counterfeiting is already widespread and high value fashion items are particularly well suited to RFID based identification and tracking.

### SUSTAINABILITY IN LOGISTICS

Finally, improved asset management brings important legal and regulatory benefits through an environmentally responsible approach and more sustainable logistics

practices. If one looks broadly at the different groups involved with the lifecycle of a particular asset, there are further benefits to be realised. Asset management also increases the level of stakeholder accountability since items can be tracked to their sources and issues of misuse or asset abuse are quickly identified.

## Starting out - essential questions to answer

At the outset when considering your own organisation's asset management requirements, it is essential to answer the following questions:

- Which assets or objects are critical for the business and need tracking?
- What is the end goal of tracking the asset?

Added to this, it is important to understand:

- What information needs to be captured and to what level of detail?
- What is the tolerance for errors?
- How best could this information be captured?
- What is the durability of the data capture mechanism?
- Does the process require the co-operation of external stakeholders?
- Where will the data captured be stored and accessed?
- How will the corresponding data be used by the business?

## MATCHING THE SOLUTION TO THE ENVIRONMENT

The working environment is an important consideration when deciding upon the type of asset management system to implement. For high value assets, if the external conditions allow the use of active RFID systems - i.e. they exhibit low humidity levels or water content, no potential metal interference or, where it is not possible to achieve a line of sight, this maybe the preferable option. In wet conditions or for assets containing metal, image based automatic data capture systems such as Visidot could be a better alternative to a fully manual scanning system using Datamatrix barcodes.

## ATTENDED VS. UNATTENDED SYSTEMS

There are 2 main types of asset management systems that can be employed. Firstly, a simple attended system, whereby the assets must be recorded and accounted for through a manual process, for example, using barcode devices. Here the costs of employing barcode labels are low. Even for 2D Datamatrix or Databar barcodes, which offer the potential to store a high level of detailed information, the entry cost is just Euro 0.10cent.

The alternative to this is an unattended system, for instance using either active or passive RFID, which offers greater accuracy, but is expensive to implement. Because

of their higher levels of automation and accuracy, unattended systems are increasingly widespread and tend to be employed where it is not viable to expect the movement of assets to be manually recorded with the right level of reliability. For obvious reasons, these systems are also more effective at preventing theft.

The cost of employing an RFID based system can differ widely along a spectrum according to the type of RFID tags being used and their corresponding functionality. For instance, a passive UHF tag can be installed for as little as Euro 0.50cent. Contrast this with an active tag costing Euro 50 per item, but which offers the potential to capture accurate location and environmental information. The business case needs to take into consideration both the opportunity cost of not implementing asset management and the acceptability of errors occurring undetected elsewhere in the supply chain.

## Asset management in practice - application examples

The examples below illustrate common issues by industry sector and describe how they might be resolved using asset management solutions.

### HEALTHCARE - THE PUBLIC SECTOR HOSPITAL

Public spending pressures mean hospital budgets face greater scrutiny than they might have in the past. In this scenario, assets could equally represent both people and medical equipment, ranging from beds to medical devices such as pumps.

Asset invisibility can result in significant costs, lost time or longer than necessary patient waiting times. Anecdotal evidence suggests healthcare workers can spend up to a third of their time searching for equipment, which results in hospitals having to over-procure in order to compensate for asset invisibility.

Solutions that reduce the disappearance of medical devices, or help staff locate equipment moved to other parts of the facility, are therefore essential.

An effective unattended asset management system for hospital environments makes use of active RFID tags to identify key assets with gates installed at key points of entry and exit to track movement. The advantage such a system brings to a hospital is the ability to maintain an ongoing inventory of assets belonging to specific departments. This in turn minimises problems with theft, preventing staff from effectively 'hoarding' equipment and thereby reducing the need to purchase new assets. Individual departments have greater accountability for the assets they are assigned and purchasing costs for new equipment are significantly lower.

Should a new asset, for instance a pump, be requested, the purchasing manager simply checks the asset management system to identify whether the purchase is necessary, whether an alternative is available and its location. The asset management system

provides a single view detailing what is in stock, being repaired, or, as is too often the case, hoarded for a possible future need and then forgotten about. In addition to avoiding unnecessary purchases, such a system also increases an individual's accountability to 'look after' departmental assets properly and can also increase patient safety levels as a result.

#### FOOD AND BEVERAGE - THE FRESH FOOD PRODUCER: USING RFID

The food and drink industry are increasingly seeking ways to employ re-useable and re-cyclable packaging without the move becoming cost prohibitive. More and more fresh produce specialists are using re-useable packaging when transporting fresh food items to the retailers and food service companies they sell to. Interest in solutions for so called returnable assets - plastic crates or roll cages for instance - is gaining pace. This is because of the opportunity to contain the cost of this 'fleet' through better management and also fight increased levels of theft. However, investment in plastic crates, which can cost up to 10 times more than single use disposable crates, is only viable if the initial outlay can be recouped over time through repeat usage.

By introducing RFID tags onto the item, losses caused by the crates being stolen can be pinpointed quickly and minimised. To help ease the initial costs of implementing re-useable crate systems, it is now common practice for users of crates to pay a deposit and rental fee for their ongoing use. An unattended tracking system based on RFID will automatically record the allocation and return of these items to different supply chain stakeholders. Should items not be returned as expected, the offending company is charged accordingly.

Working in this way means the producer knows in advance how many crates to expect back into his distribution centre and whether further stock should be obtained to counter losses. It is also possible to use a combination of barcodes and RFID tags for such systems, to allow suppliers to select the best technology for their own operations and environmental conditions.

#### FOOD AND BEVERAGE - ALTERNATIVE APPROACH TO TRACKING: USING IMAGE BASED SYSTEMS

Image based data capture systems offer an opportunity to derive the same benefits from automation and accuracy in environments that are not suited to RFID. For instance, many food producers operate in a wet or humid warehouse where performance levels for RFID based systems would be severely compromised. Alternatively the initial cost of RFID could not be justified because of the low value of goods being shipped. Provided a line of sight is available, image capture offers equivalent performance and potentially lower upfront and ongoing costs.

## FOOD MANUFACTURER - INTERNATIONAL BAKERY: USING IMAGE CAPTURE

In a typical food industry application implemented by a multi-national chain of bakeries, image capture ensures complete traceability of tens of thousands of bread boxes delivered daily from multiple depots to hundreds of customers. Products or containers tagged with industry standard 1D or 2D barcodes are loaded for delivery and scanned at each point of movement. As an automated system, throughput is high and in-depth tracking achieved without impacting service levels. The customer has a 'birds' eye view' of their entire supply chain, while dramatically reducing shipping errors and manual labour costs. In addition, a wide range of custom applications, including proof of shipping and proof of product condition, can be added.

## RETAIL - THE MULTICHANNEL RETAILER OR SPECIALIST E-TAILER

Managing reverse logistics is an increasing challenge for retailers - especially for e-commerce specialists selling high fashion, high value items. In some cases, these businesses face up to a third of all sales being returned as 'unsuitable' because of the nature of their business model. However the cost of manually processing items which come back into the supply chain is considerable and asset management can significantly reduce both this and any associated risks of losses.

Two of the issues troubling e-tailers battling with their reverse logistics strategy relate to how to avoid losses through abuses occurring within the system. On one hand, they face the high cost of manually checking over each incoming item to ensure it is undamaged and re-sellable. A common trick employed by customers is to purchase a new item and try to return a worn/used identical model online, and surreptitiously obtain a refund for the new item.

Added to this is the prevalence of counterfeiting branded goods. In this case, the customer keeps the authentic model and returns a brand new, but worthless, fake. Without the use of a unique identifier to alert the retailer of possible counterfeiting, this is a difficult problem to eliminate. However by using a serialised identifier within a hidden RFID tag, the problem is resolved - an individual item can be uniquely identified as genuine and matched to its purchase history. A solution such as this is easily affordable for retailers selling high value items. The main consideration is for tags to be securely hidden to ensure they cannot be dismantled and re-applied onto counterfeit goods.

## LOGISTICS SERVICE PROVIDER RPC (REUSABLE PLASTIC CONTAINER) POOL MANAGEMENT

Across many industry sectors an increasing number of manufacturers and retailers have elected to sub contract their transportation requirements to specialists who rent plastic food crates and other returnable transit equipment. Effective management of an RPC pool by a specialist logistics service provider improves management and business decision making for the end customer. It means the customer does not have to devote funds to capital expenditure for purchasing large volumes of plastic crates. In addition, should any third party crates be lost or damaged, it is the service provider who pursues the supplier for compensation, saving potentially embarrassing situations.

For logistics companies specialising in managing RPCs on a global level, it is important to identify technology applications to improve operational efficiency and add more value. A typical RPC traceability application would provide a large logistics service provider operating hundreds of service centers with complete, global traceability - from growers and manufacturers, through to distribution centers, retail stores, poolers and individual RPCs.

Tracking and tracing RPCs using image capture has been proven to deliver significant benefits for operators managing tens of millions of rental containers annually. Using a dual scanning method, containers are scanned as they are returned to the facility and then repeat scanned to ensure labels are complete and do not require corrective action. Finally pallets are registered as stock ready to be shipped. Traceability records can be viewed and managed in real time through any Web-based station connected to the RPC pooler's corporate network and in addition may be shared with supply chain partners and customers as an added value service.

Existing users report the application of image capture based systems allows them to easily maintain complete traceability, while enhancing overall process accuracy and efficiency, and drastically reducing inventory shrinkage, shipping errors and manual labour costs.

### Conclusion

Whether the motivation is to prevent asset invisibility or detect losses through theft, asset management is an essential element of quality production management, whose overall objective is to support efficiency, quality and safety goals.

In the future as cost management continues to increase in importance, asset utilisation tracking will become a routine element of daily supply chain operations as the costs of data capture technology decrease compared with the opportunity cost of abstinence. Coupled to this, increasingly powerful wireless communication systems and the ability to act upon real time information to improve decision-making and competitive advantage will prove difficult benefits to resist.

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## About Zetes

Zetes (Euronext Brussels: ZTS) is a leading provider of supply chain, identification and mobility solutions. By utilising automatic identification technologies in an intelligent way, we link goods (and) or people to new and existing IT systems. The result for our customers is seamless information exchange, with data captured at every stage of the process and made available in real time. Zetes' solutions thus provide companies, public institutions and governments with the desired control over their floor and field operations, which allows them to optimise overall performance, improve their bottomline, and face the most demanding traceability challenges.

The Zetes Group has its headquarters in Belgium and employs more than 1000 people across 15 countries in EMEA. Zetes aspires to achieve sustainable profits and growth; its consolidated revenues for 2010 amounted to €216.7 million.

More info: [www.zetes.com](http://www.zetes.com)

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