Attacking
That Sneaky
Hidden
Cost In Your
Supply Chain

Attacking That Sneaky Hidden Cost in Your Supply Chain: Pallets

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When we talk about supply chain cost reduction, we usually think about transit time, route optimization, or prevention of loss and damage of our goods. There's much more that can be done! Know how you can use Bluetooth Low Energy (BLE) to calculate what your supply chain assets (pallets, bins, tubs, small containers) inefficiencies cost, and how you can more effectively attack the problem!

Whether you are a small or big enterprise, an automotive or a consumer goods firm, you are often dealing with re-usable pallets, tubs, bins, and small containers to ship your goods. You may have purchased them or are renting them for a fee from pallet rental companies like Chep. Whatever is the model used, these re-usable pallets, tubs, bins, and small containers, collectively referred to as "pallets" or "supply chain assets," can take up a significant portion of supply chain spend if managed inefficiently.

We refer to this spend as "hidden" because you can neither track it down to an individual pallet on your books, nor can you see it in your day-to-day operations (as in the case of delayed shipment costs or theft). It is "sneaky" because it sneaks up into your P&L when you tally or audit your supply chain assets during your financial closings. Addressing pallet management can give you significant supply chain cost reduction and provide you with better control over your supply chain assets, but how to combat it?

Let us take an example of fighting an army of guerrillas – it is hard to beat what you cannot see! Guerillas employ a hidden approach. They often disguise themselves and carry out series of small attacks, making them hard to directly confront without better information about their identities and movements. To combat this, armies employ a specialized strategy. It is done through the use of sustained surgical strikes. The mantra is "Watch," "Calculate," and "Attack." Intelligence plays a vital role before a strike is calculated, calibrated, and launched.

Pallets can become an enemy for your supply chain costs when poorly managed. In the context of improving pallet management, let us explore the use of a sustained surgical strike approach: "Watch" and gather intelligence on the movement of your pallets using BLE beacon real-time technology, "Calculate" its impact, and "Attack" through implementing and enforcing processes.

Step 1: "Watch" And Gather Intelligence Using Real-Time Visibility
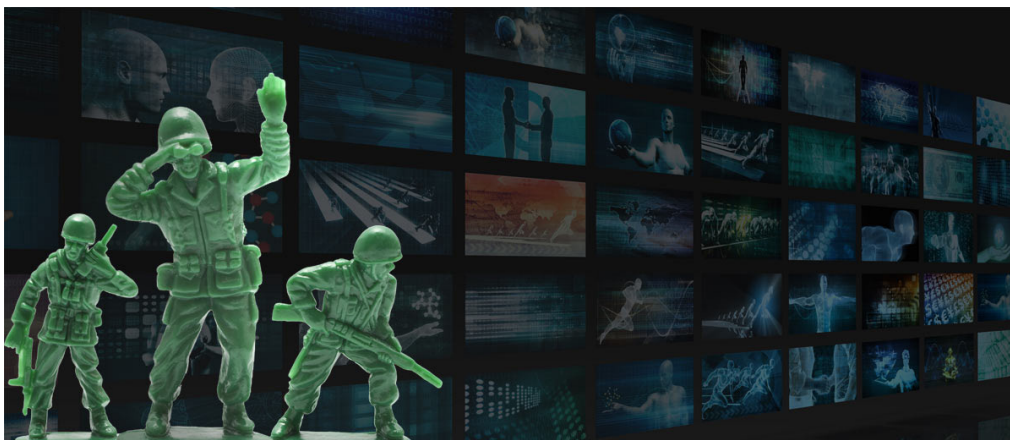
Hidden costs from pallet management arise out of pallet loss, bad utilization, and aging (lying idle in a warehouse or yard for weeks or months). Aging can also contribute to loss of the pallets. Pallets move across your own and customer facilities across cities, countries and continents. Therefore, to watch what is happening with your pallets, you need 360° supply chain visibility for a few weeks or for a few months to gather any valuable intelligence.

Let us have a quick look at the technologies that exist in the market to assist you with monitoring pallets, and which of them work the best:

a. Barcodes

Barcoding your pallets are easy but scanning them accurately is close to impossible. Imagine you have 500,000 pallets and each pallet moves across your warehouse and customer facilities three times each month. That is 1.5 million scans at each location or a total of 1,250 person-hours or 52 person-days. Impractical right? Yes, this is one of the reasons why barcodes are being replaced.

Therefore, barcodes cannot help!

b. RFID

RFID does not need "line of sight" scanning like with barcodes, but it is expensive to implement and needs proprietary readers installed at every warehouse. Further, there is no way to get visibility of pallets in-transit on trucks. You need to know if your trucker did not drop off all your pallets and goods.

Therefore, RFIDs won't solve your problem in terms 360° visibility either!

c. BLE Beacons/Tags

Beacon based technology, with portable gateway hotspots or a simple smartphone, could help you. This technology is easy to implement with no upfront infrastructure setup costs, works at the warehouse and in-transit (using the portable hotspot gateway or smartphone), and costs much less than RFID. Beacons or BLE tags have a battery life of a year or more, and can carry additional sensors for tamper, temperature, etc. to monitor your pallets' location and also report its condition.

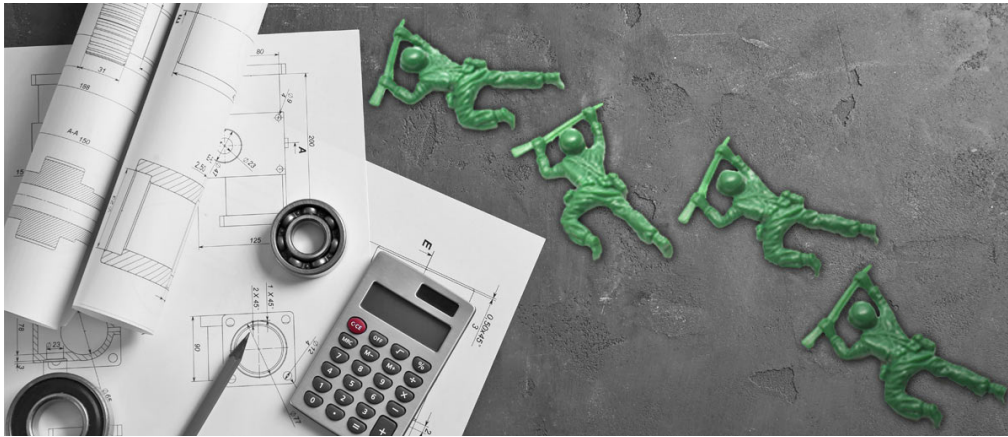See why BLE Beacons trump older technologies like RFID.

All you have to do with Beacons is attach them to your pallets and setup hotspot gateways at your warehouse and in-transit. The hotspot gateway can also be your warehouse personnel's

smartphones if you wish.

Once you have visibility of pallets, bins, tubs or small containers across your supply chain for a few weeks or a few months, you will be able to see how they move, where they are lying at any point of time, and aging data – these help formulate the basis of estimating the hidden spend you are incurring on pallet management today.

[Learn how you can turn BLE into 360° supply chain visibility in 7 steps.](#)

Step 2: "Calculate" Your Savings

Once you have visibility, you will be able to identify and estimate the impact of various inefficiencies in your pallet movement across your supply chain. Let us have a look at four areas where you could have inefficiencies contributing to your financial leakage.

a. Pallet Loss – How to Estimate?

Pallet loss can happen either in transit, at your warehouse, or at your customer's warehouse. With visibility using BLE beacons, you can prevent almost 100% of your pallet loss. Aging is a major factor that contributes to pallet loss. This is because when a pallet is lying unutilized, it could get damaged over time or stolen.

Your total savings on pallet loss can be calculated as follows:

Pallet Loss Savings (A) = Cost of Pallet – Portion Paid by Insurance During a Claim – Deductibles or Copays

For example, if you pallet costs $50 and your insurance company pays you 90% of your claim with a deductible of $5 per claim, then the total savings for you is $10 per pallet. If you are los-

ing 100,000 pallets every year, this is an immediate savings of $1 million for your business.

b. Pallet Utilization – How to Estimate?

Pallet utilization is 100% when the aging of a pallet is 0 days. This means that the pallet is never kept idle. In reality though, due to challenges in arranging for the reverse logistics for your pallets, loading and unloading delays, and unforeseen circumstances, pallets do age for a few days in a year. Hence, aging beyond an acceptable range can increase your costs.

Therefore, you can estimate your savings as follows:

Savings Through Better Pallet Utilization (B) = (New Number of Days of Use Per Pallet in a Year - Old Number of Days of Use in a Year) x Cost Per Day

For example, if a pallet costs you $0.50 per day in terms of rental, the early number of usage days was 300, and you now bumped it up to 360 days, the savings for you is 60 days of use or $30 per pallet. This translates into an annual savings of $7.5 million if you had 250,000 pallets.

c. Saving "Lost Days in Shipping" & Associated Working Capital Due To Unavailability of Pallets When Needed

Without visibility of pallets, it is hard to plan to have pallets ready for shipping an order. How do you calculate the loss this has made to your company?

Let us consider the number of days your goods have awaited pallets for shipping as "C"

The total value of your goods that awaited the pallets is "D"

Your Interest Rate is "E%" Per Annum

Working Capital Interest Savings (F) = (D x E% x C/365)

For example, if you had 5000 consignments each worth $250,000 and you saved a 2 day delay on each, your savings on Working Capital Interest at an interest rate of 5% is $68 per consignment or $340,000 annually.
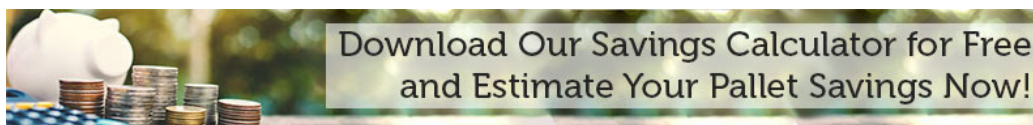
d. Saving "Lost Days in Shipping" & Associated Detention Cost

Saving lost days can also save you on the detention cost your logistics service provider might charge you for idling the truck or rake at your facility.

Detention Savings (G) = Cost Per Day of Detention x Number of Detention Days Billed by Your Logistics Service Provider

Total Savings (H) = Sum (A, B, F, G)

By knowing your potential total savings, you are in a good position to attack your problem. With this ammunition in your hand, you can now implementing a smart pallet management program using real-time visibility.

Step 3: "Attack" by Building a Process with BLE Visibility

a. Set Aging Thresholds

Set a threshold for aging and configure alerts to your respective warehouse managers using your BLE solution when a pallet ages beyond its threshold.

b. Plan Better Touting

Build a supply chain plan around the movement of your pallets. It is not easy, but once done it will ensure that your pallet aging reduces and utilization improves – leading to the decrease in instances when you are unable to ship your goods due to unavailability of pallets.

c. Plan in Advance For Reverse Logistics of Pallets

With BLE beacons you will have complete visibility of the pallets at different location in your chain of custody – at your own warehouses, in-transit and at customer sites. Using this information, you can plan to consolidate your stranded pallets with other pallets at various locations, plan its routing, and come up with a reverse logistics strategy even before it a pallet gets shipped to a location from your own warehouse.

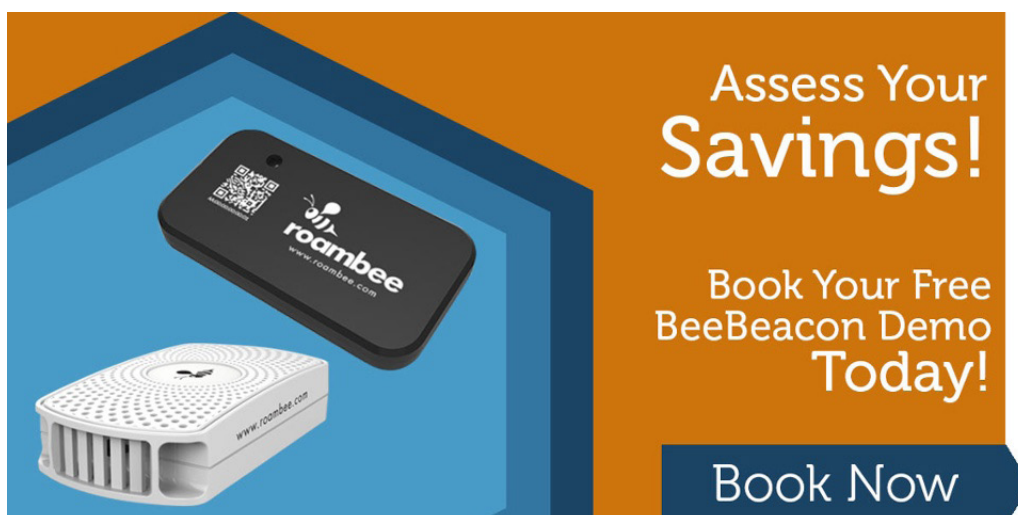## Find Your Net Return-On-Investment (ROI) Before Implementing BLE

To get the net savings calculated from pallet loss recovery, utilization, and lost shipping days, you will need to factor in the cost you will be investing on your BLE Beacon solution. The solution investment cost will include the cost of beacons, hotspot gateways, software, setup costs and integrations with ERPs or WMS, and any additional man-power.

Assuming that cost is (I), the overall return on investment (ROI) for you will be:

Net ROI = [Total Savings (H) – Cost of the BLE solution (I)]

It is also important to note that the savings calculations could vary by industry or use-scenario. Your payment terms or capital borrowing deals with your financial institutions can also affect working capital calculations. The detention cost varies based on your agreements with your logistics transporter providers.

In such a situation, it warrants getting an expert to look into your savings estimates. Schedule a free web-consultation with a Roambee solution expert! Along with your free savings estimate on your supply chain assets, you will learn how the industry's first pay-as-you-go BLE/GSM/Wi-Fi based in-transit item-level monitoring solutions works!

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