



Computing the Return on Investment from a BellHawk System

A commonly asked question from people considering implementing a BellHawk tracking system is “What will be my ROI?” This document looks at cost benefits that can help justify the investment in implementing a BellHawk system.

Cost benefits can come in a number of areas:

1. Reduced inventory costs by better tracking and control of inventory.
2. Elimination of lost repeat business due to late deliveries.
3. Elimination of penalties due to missed, late or mislabeled shipments
4. Elimination of the cost of expedited shipments to avoid late deliveries
5. Cost of overtime to get orders out on time.
6. Increased sales by being able to comply with customer or Government requirements for tracking and traceability data.
7. Improved performance of people due to ease of management monitoring.
8. Reduction in time wasted trying to find materials.
9. Reduction of scrap and rework
10. Elimination of manual data recording with pencil and paper and the manual keying of this data into a computer.

Some of these are hard to quantify, such as the cost of lost repeat business due to late deliveries and the sales opportunities lost due to not being able to capture sales due to non-compliance with customer or Government requirements. They become easy to understand when an organization loses a major customer or fails to win a major contract but are hard to quantify in the aggregate. Yet these factors are very often the most important for future business success, or even survival, for an organization.

Others are easier to quantify:

1. The cost of excess inventory can be determined by comparing current inventory turns with industry norms or a desired rate of turns. If your inventory turns are low then you can use the ratio of target to actual inventory turns to compute how much excess inventory you are carrying. This can then be looked at as cash that can be recovered by reducing inventory or as a reduction in annual finance costs and taxes. In the case of one company with about \$25 Million in annual sales, implementing a BellHawk system enabled them to reduce their inventory by over \$5 Million in one year and return this much cash to the owners; not a bad return on an investment of under \$50,000 in a BellHawk system.

2. Reduction in penalties due to late or missed shipments or mislabeled shipments. Many Tier One customers, such as big box retailers, impose penalties for late or missed shipments or mislabeled shipments or shipments that don't correspond to ASNs. The department that imposes these penalties is often the most profitable operation for organizations like WalMart. These costs are easy to compute by using a 12 month history. We have had organizations that were spending tens of thousands of dollars a month on penalties before becoming BellHawk customers
3. Reduction in expedited shipment costs are easy to compute. Look at a 12 month history. You may be surprised how much an organization is spending. Don't forget the cost of expedited delivery of inbound materials to support orders. One organization implemented a BellHawk system after spending over \$35,000 to air-freight a replacement order to an important customer for a shipment that was placed on the wrong truck. They figured that avoiding one more mistake like that would pay for their BellHawk system immediately.
4. Reduction in the cost of overtime to get orders out on time. This may also show up as the cost of temporary help. This is often caused by poor tracking of material flow for orders so that problems are not recognized until it is nearly time for shipment. Then overtime and other resources are thrown at the problem to get the order out on time. This can be solved in many cases by monitoring the flow of materials and ensuring that they stay on schedule from receiving, through production, picking, packing and shipping. One of our customers cut overtime by over \$200,000 a year by implementing a BellHawk tracking system.
5. Improvement in efficiency of people due to measuring performance. It is possible to save 10% to 20% of your production and material handling labor cost. Industrial engineering studies have shown that average gains of 10% to 30% in performance can readily be attained by tracking and measuring performance. Without performance measurement the average performance of workers sinks to the lowest common denominator. Add another 10% to 15% if you are basing compensation on measured performance. This translates into manpower that you don't have to hire or can reassign to other tasks.
6. Reduction of time trying to find materials. These are harder to quantify, although anecdotal stories of people wandering around for hours in a plant trying to find lost material abound. In one plant I observed a material handlers spending several hours looking for "lost" material due to shipped to a customer and another spending hours looking for a "lost" roll of labels that caused a production line to have to be torn down and setup for another job because they ran out of labels; and all this in one morning. Needless to say they implemented a BellHawk material tracking system. A good assumption is that implementing a material tracking system will improve the performance of your materials handlers by at least 10%.
7. Reduction of scrap and rework. Very often these are hidden costs that are not reported anywhere and yet can be very expensive. One organization found it was reworking over 30% of its products after implementing a BellHawk system. The cost of this can only be found by careful observation of the production processes and the labor hours and machine time that are spent in reworking products. Also the cost of scrap is often hidden. It can often be estimated by comparing the quantity of materials consumed on jobs versus the quantity that should have been consumed based on the bill-of-materials.

8. Elimination of data recording with pencil and paper and the subsequent keying in of this data into a computer. The cost savings here includes:
 - a. Labor hours spent by factory-floor employees writing down data on paper forms.
 - b. Labor hours taken by supervisors or data entry clerks to keyboard this data into the computer.
 - c. Time taken by expensive managers and information technology people finding and correcting errors caused by the above two steps. This should include the time taken to back-out data from your ERP or Accounting system, which may have propagated the mistakes to many tables.

When computing ROI costs, use fully loaded overhead as part of employee hourly costs. This includes the cost of health insurance and other fringe benefits, vacations, holidays, sick time, federal, local, and state taxes, insurance, space and supervision costs. With rare exceptions, use materials wasted at cost (with estimated added labor and machine cost for WIP and finished goods). For wasted machine time in rework operations, allocate all overhead not directly associated with employees over all machines according to last years production (in some common denominator, such as pounds or feet produced).

We typically find that the cost of a BellHawk tracking system is equal to the cost benefits achieved in six months of operation, so we talk of a 6 month ROI. In some cases, we achieve a 3 month ROI and in some already very efficient operations the ROI may extend to 12 months. If it is greater than 12 months, then the BellHawk tracking project is probably not attacking the most beneficial problems.

For more information please contact sales@BellHawk.com or call 1-508-865-8070.