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9 Costly Mistakes in Manufacturing and Distribution and How to Prevent Them

The 9 Costly Mistakes

The following mistakes are by no–means an exhaustive list of all the mistakes that employees can make by omission or commission or management can make by using bad methods. It would probably take a very thick book to list them all. What I have tried to do here is to compile a list of mistakes that have cost our clients a large amount of money, time and aggravation and caused them to implement a BellHawk system to prevent a recurrence of their problems.

1. Having employees use wrong materials or apply wrong processes to materials. This can have very expensive consequences including scrapping or wasting lots of material. It can also lead to product failures and recalls with their expensive legal consequences. It can also lead to massive loss in customer confidence and result in many lost sales.

2. Failure to track quality control status of materials and related test data evaluations. This can lead to using sub–standard materials in products or shipping faulty products to customers. This can have very expensive consequences including scrapping or wasting lots of material. It can also lead to product failures and recalls with their expensive legal consequences.

3. Failure to maintain traceability records when required by an agency such as the FDA or by a customer, such as those in the automotive or aerospace industry. Being unable to quickly produce accurate traceability records when a problem arises can lead to plant shutdown or a very expensive blanket recall.

4. Failing to accurately record what materials are received as soon as they are received. This leads to inventory errors and to reordering unnecessary replacement materials, often with expedited shipping. Even when employees do not make mistakes, the same issues arise when there are delays in recording the receipts into the inventory tracking system.

5. Failure to accurately record where materials are put away. This often happens with the use of designated bin locations for parts storage. The bin gets full and the materials are placed in overflow storage. Then many hours are wasted wandering round the warehouse looking for the materials. Even worse, unnecessary replacement materials may be purchased or manufactured.

6. Having employees pick the wrong materials for a customer order, put the shipment on the wrong truck, or mislabel the shipment. These can all lead to having to ship replacement materials, often with costly expedited shipping. They also can lead to contract penalties or cancellations, unnecessary credits to customers and delays in getting paid.

7. Failing to accurately record and document what is shipped or delivered to a customer. This can result in excessive credit claims, expedited shipment of replacement materials or a rapid degradation in the customer relationship, when they claim not to have received materials you

shipped. If this is coupled with the submission of an inaccurate advanced shipment notice, it can have significant contractual and legal consequences.

8. Failure to track unallocated inventory as well as physical inventory. Inventory that is on the shelf may already be allocated to other jobs and customers and may not be available for use. Using this inventory can result in stock–outs that can lead to work stoppages or late shipments or excessive overtime to correct the problem when the materials do become available.

9. Using pencil and paper to record inventory or production operations and then subsequently keying this into a computer. The delays and mistakes that are caused can result in inventory accuracy problems. They can also result in poor tracking of the status of jobs and work–in–progress. As a result customer shipments may be delayed or costly overtime required to get the customer order out on time. Even worse the shipment may be rejected by the customer or severe penalties applied.

Mistake Prevention

Examination of the above 9 Mistakes shows some common themes:

1. Failure to accurately record material and production transactions in a timely manner.

2. Failure to accurately record quality control and test data in a timely and accurate manner.

3. Failure to use that information in combination with customer, supplier and product information to check that the employees are not making mistakes.

4. Failure to use that information to ensure that employees work efficiently and that customer orders are not held up in production or shipped late.

5. Failure to use that information to accurately tag and label products and to provide accurate paperwork and electronic data submissions for customers.

The solution to preventing these mistakes is to implement a real–time material tracking and production control system, such as that provided by BellHawk Systems Corporation and its solution partners. Such real–time systems use technologies such as:

1. Distributed real–time computing: with many PCs linked to a central relational database that acts as the repository for all the material tracking and production control data.

2. Barcode scanning: to accurately record data in real–time without writing down or keyboarding the information.

3. Wireless mobile computing: to enable mobile employees to do real–time data collection

4. RFID data collection: to automatically record the motion of materials, vehicles and people.

5. The Internet: used for linking data from many plants and warehouses and for remote access to material tracking and production control data.

6. Artificial intelligence: used to interpret material tracking and production control data as well as to evaluate quality control test data.

These material tracking and production control systems are usually integrated with ERP, Accounting systems and exchange data with these financial systems in real–time. They are also integrated with weighing scales, process control systems and automated test stands to automatically collect data.

Conclusion

The 9 Mistakes listed here have cost companies millions of dollars in excess inventory, wasted materials, lost revenues, excess overtime, late–shipment penalties and expedited shipment payments. They have also cost some companies even more money in legal costs and lost customers.

The Ford Explorer – Firestone Tire debacle was a classic case of a failure in material tracking and production control. There were only a few thousand tires at most that were defective but Firestone did not know which ones. As a result nearly 150 people died and it cost Ford and Firestone over $4 Billion each to handle the massive recall of millions of tires. Even worse, the sales of Explorer SUVs and Firestone tires plummeted and have not yet recovered many years later.

We are now seeing similar issues in the food chain. At the time of writing this article, no–one knows how many wheat gluten lots were contaminated or where the resultant pet–food products were shipped to. As a result the manufacturer has had to do a massive and very expensive nationwide recall of all the products it has manufactured. We are seeing more recalls in areas such as contaminated spinach, Chinese food and mouth wash.

Implementing a real–time material tracking and production control is a great way to minimize mistakes that could result in massive legal and public relations problems or even put you out of business. These systems are also a great way to reduce costs by eliminating other internal problems. We find that these systems typically pay for themselves in 6 months or less and some BellHawk clients have had an ROI of less than 4 weeks.

Just remember Murphy's Law "If things can go wrong they will" and in manufacturing and distribution operations there are many opportunities for mistakes. It is not a case of "If" someone makes a mistake but a case of "When" and what you are going to do about it.

Author

Dr Peter Green is Chief Systems Architect of BellHawk Systems Corporation. He is a leading expert in implementing real–time material tracking and production control systems. Prior to being one of the founders of BellHawk Systems in 1989, Dr. Green was a Professor at WPI University and a member of the research staff at MIT. Dr. Green was educated at Leeds University in England where he received a BSEE and a Ph.D. in Computer Science and Radio Frequency Identification Methods.

BellHawk Systems provides packaged real–time material tracking and production control solutions as well as custom solutions tailored to the exact needs of its clients. For more information, please see www.BellHawk.com.

