



APPLICATION PAPER

Packaging Code Management

Eliminate Packaging Coding Errors

EXECUTIVE SUMMARY

This Application Paper looks at what a packaging code management solution is, the need for packaging code management solution (PCM) and the business benefits of the same.

There are various date-coding, batch-coding, bar-coding and labelling issues on production lines like:

- Coding and labelling errors leading to re-work & wastage
- Management of multi-coder production lines
- Management of coders on multiple production lines
- Compliance to legal and retailer requirements

This paper details the above issues and discusses how these issues can be easily resolved using an advanced packaging code management solution. It also covers the various stages of PCM implementation and how to choose the PCM solution that best suits your business.

PACKAGING CODE MANAGEMENT

In this highly competitive market, effective supply chain management is a key factor to business growth and correct, scannable and if necessary, human readable product identifiers and codes are necessary to achieve this.

A packaging code management solution automates the product coding process to ensure the right code such as a date-code, batch-code or barcode is put on the right product every-time. It also enables faster product change-overs and provides real-time visibility into each of the production lines in a plant. Getting it right the first time is critical for lean manufacturing processes.

THE NEED FOR A PACKAGING CODE MANAGEMENT SOLUTION

If the wrong code goes on a product, it leads to re-work, recall, wastage and effects the brand's reputation. Also, in manufacturing environments where there are multiple coders, manual management of these coders leads to inefficient process and increased chances of human error.

Cost Implications

In our experience, working with companies across industries from Food & Beverage to Steel, the cost of incorrect coding can range from \$10,000 to \$200,000 per year depending on the number of goods produced, the type of fines & penalties involved, cost of labour and consumables among other factors.

Product coding is not a core activity for manufacturing, yet it is an important part of the packaging process and is invaluable for supply chain management to gain visibility and traceability through the entire chain. It is also a legal requirement in many cases and is necessary for quality assurance and compliance.

Uncoded or incorrectly coded product creates problems in the entire supply chain. These include:

- Product recall
- Rework: time and wages (and consumables when incorrectly coded)
- Product wastage

- Direct fines and penalties from customers
- Opportunity cost
- Lack of brand protection

Both “re-work” and “opportunity cost” assume it is actually possible to run packaged products through again for correct coding. However, if the packaging type or the product shelf life makes this impossible, then the true cost of uncoded or miscoded product is much higher.

The above also assumes the coding errors were discovered before reaching the shelves for end consumers. Recalling product at this stage is expensive — both financially and to a company’s reputation.

Coding & labelling equipment management

Diverse production environments with manual packaging coding processes have various issues leading to coding and labelling errors. These can be summed up as:

- i. Too many messages to manage: hundreds of messages in a coder are hard to change, edit, update and manage directly on the machine.
- ii. Too many coders to manage: the more pieces of equipment of varying models and types, the greater the chance at least one will be programmed incorrectly.
- iii. Too many operators due to the number of shifts or new employees: every employee needs to be trained, in detail, on each coder.

DEVELOPMENT OF THE PCM INDUSTRY & SOLUTIONS

Visually checking every single product for correct coding is impossible, unless the production line is very small or very slow, which is not the case for most modern businesses that need to gain economies of scale and achieve lean manufacturing to be globally competitive.

Even if it is a small or slow line, it is simply not humanly possible to verify every single code. An operator might note that a code is missing, or on the wrong side of a product, but not, for example, that the batch code reads “246244” instead of “242644” — and certainly not after reading that number over and over again.

Human error aside, clearly it is unworkable to slow down production output to manually check for correct coding. Thus package code management (PCM) solutions were developed to manage all the coders on the production line and automate the coding process to ensure the correct code is put on the correct product at the correct time.

PCM solutions have now evolved to managing multiple devices like vision systems, unattended scanners in addition to coders to code and then verify that it has been coded, that barcodes are scannable and that the position of the code or the label is correct.

These solutions also can be integrated into WMS systems or ERP systems to aid the inventory management process and centrally manage all the product information and information formats like Global trade item numbers (GTINs).

HOW PCM CAN BENEFIT A BUSINESS

Eliminate coding errors

While a business can estimate costs caused by coding errors, putting an accurate figure on exact costs can be impossible. Mostly this is because fixing coding errors is not measured as part of a plant's efficiency, and is highly unlikely to be a key performance indicator (KPI).

If seen and noted, resources (such as time, consumables, etc.) expended on product rework may simply be included as lowering production line efficiency, without the exact reasons for that inefficiency being understood. If these resources are not identified, then the production line will be seen as having lower efficiency, compared to benchmarks. In either scenario, the true cost will be hidden by the fact the plant has no ability to capture that information directly.

A package code management (PCM) solution integrates coding systems into business systems to deliver a strategic approach to coding.

A PCM will:

- prevent human error in coding
- prevent incorrectly coded, or uncoded, product going down the production line
- provide central management

It does this by centrally controlling all coding equipment, which has many benefits, including tighter control and greater visibility.

Achieve compliance

A PCM can also improve compliance to legal requirements as well as retailer requirements. Various large retailers have extremely strict guidelines for logistic unit identification and coding. The inability to adhere to these guidelines means that the manufacturer may not be able to do business with these retailers. Since a PCM solution manages all the coding and labelling from the central database, it delivers

- the right formats
- at the exact location needed
- consistently every time

This helps the manufacturer achieve high credibility with business partners and retailers.

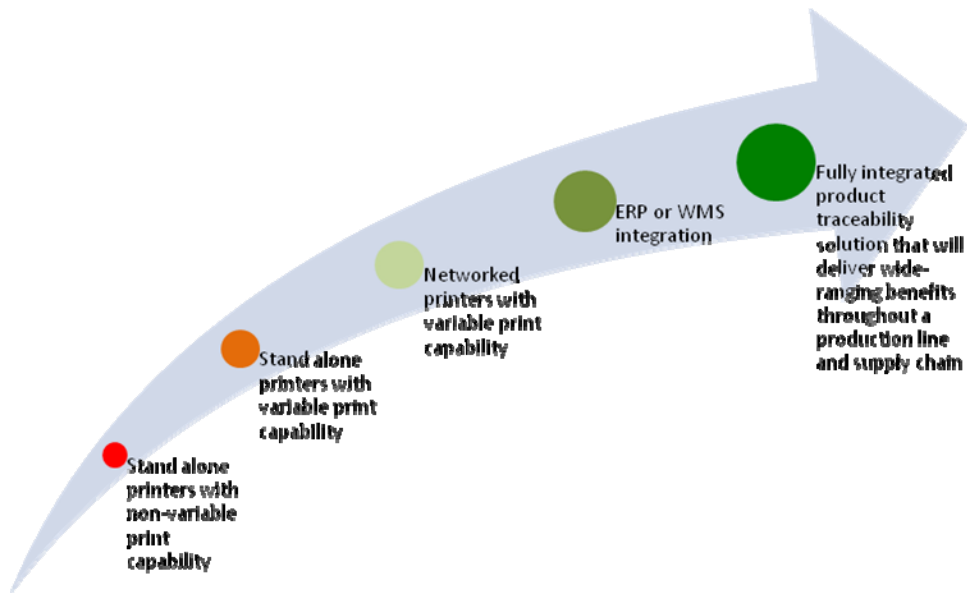
In-depth real-time visibility & control

An evolved PCM will also offer in-depth real-time reporting on production efficiency and production downtime. A well-engineered PCM can be integrated into business systems providing real time finished goods updated into the ERP systems. The ability to see this information in real-time in dashboards in the office and scoreboards on the production line gives the plant managers and business managers insight into how the plant is performing and gives them the ability to make instant decisions to reduce any down-time.

This data also feeds into reports over periods of time giving managers the ability to take strategic decisions on capital investments.

PCM READINESS AND IMPLEMENTATION

The adoption of a PCM and the benefits that it can deliver is also dependent on the readiness of the manufacturing plant. There are 5 traceability development stages that we have observed in the market.



Most businesses are at stage 2 where they have stand alone printers with variable print capability. However, many are seeing the advantages of moving up the chain and it is important to choose a PCM solution that has the ability to scale and adapt to your business as your business grows.

CHOOSING THE BEST PCM SOLUTION

As with any business tool, it is important to research the market and choose a packaging code management (PCM) solution that matches the business's needs. At this point, it can be useful to discuss your requirements with an expert, who can highlight, expand and explain in detail about how the benefits a PCM will bring.

The most important factors to consider are:

- ✓ What are the various solutions available in the market
- ✓ How well they meet your business need
- ✓ What are equipment capabilities of the PCM partner
- ✓ What are integration capabilities of the PCM partner with the coding & labelling equipment as well as the business systems like WMS & ERP
- ✓ What are software capabilities of the PCM partner and if it can be customized to suit your production process

- ✓ What are support capabilities of the PCM partner. This is critical if you have a 24/7 production facility

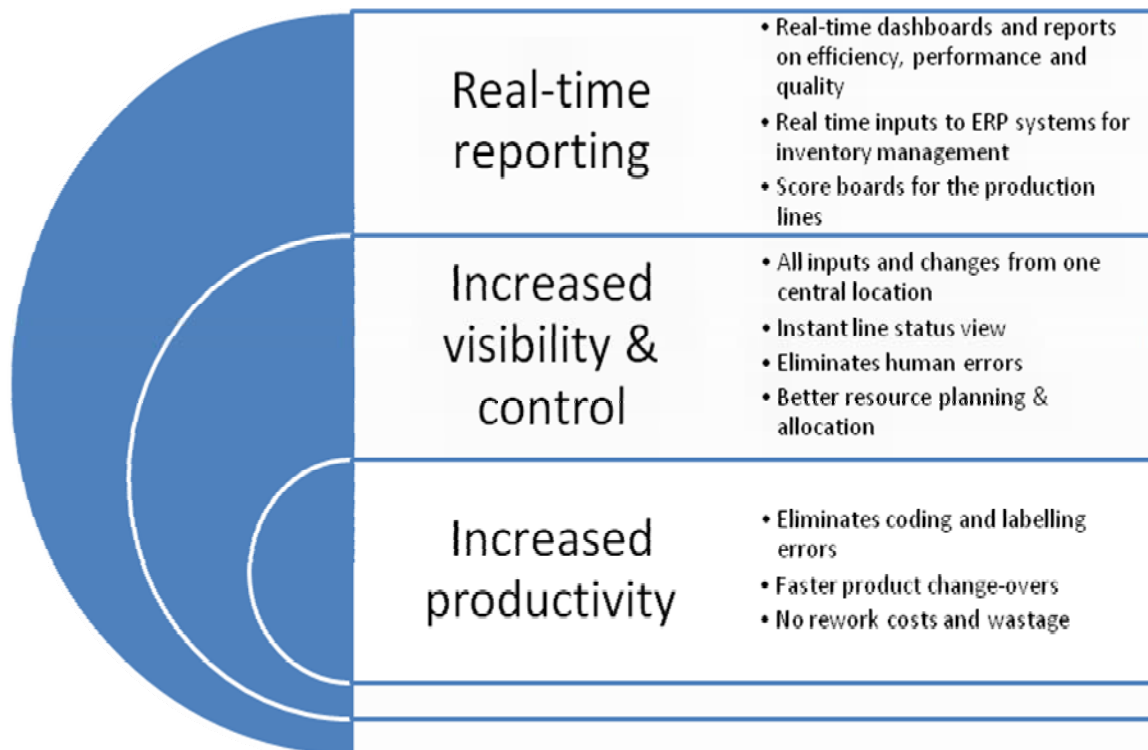
Also, we recommend that you consider the experience of your PCM partner and visit reference sites

THE MATTHEWS PCM SOLUTION: IDSNET

iDSnet is a PCM that is developed and supported 24/7 by Matthews Intelligent Identification. It also has a large installed base among customers like Murray Goulburn, Unilever, Kimberly Clark, SPC, Schweppes Australia, Coca Cola, National Foods, Carter Holt Harvey – Timber, Simplot, to name just a few.

iDSnet has been designed as a simple to install and use software package that is scalable and can grow with the business. It is also adaptable to suit all production process and can be tailored to work with the existing production processes.

Some of the benefits that iDSnet provides are:



CONCLUSION

An evolved and integrated package code management (PCM) solution gives manufacturers automates the coding process and provides one interface and a central point of control for coding. It removes human error and also ensures the correct code is always placed on the correct product at the correct time leading to higher productivity.

It manages all the coding data from a central database to ensure compliant coding to meet legal and retailer requirements thus increasing credibility.

In-depth reporting of all aspects of the production facility and real-time dash boards and score boards gives good business intelligence and the performance data can be used to guide investment and planning decisions.

ABOUT MATTHEWS INTELLIGENT IDENTIFICATION

Matthews Intelligent Identification is an Australian leader in coding, labelling and product traceability solutions. Our capabilities range from applying simple alpha-numeric codes by small stand-alone printers, right through to designing and installing networked hardware and software systems for highly sophisticated production and packaging environments for primary, secondary and pallet packaging across a wide range of industries.

Matthews is constantly at the forefront of technology. For instance, we are the first company in Australia to offer Label Printer Applicators for RFID labels. We have significant R&D investments and have developed the award-winning iDSnet™ solution. iDSnet centralizes control to ensure that the correct code, such as a barcode, datecode or batchcode, is always placed on the correct product at the correct time. By networking all coding and labelling devices back to a central database, product changes are effected down an entire production line with one simple operator action.

Our unmatched solution capability is backed by our 24x7 technical support and customer service to support all installations across the country to give you peace of mind. It is streamlined to ensure less downtime for customers and our first-time fix rate is 97%.

No matter what your coding, labelling or data capture application, Matthews is the only company in Australia that can provide you with a complete range of end-to-end intelligent identification solutions.

To find out more about how we can be of service to you, call us on 1300 CODING, visit www.matthews.com.au or email info@matthews.com.au

