

SCAN

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Foodstuffs leads the way with EANnet

CASE STUDY 1

Knight of
New Zealand

CASE STUDY 2

Dutch Rusk Ltd

EAN ®
NEW ZEALAND





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from the Chief Executive's Desk

It has been three years since I came to EAN New Zealand as Chief Executive and it's hard to believe how much has been accomplished.

When I started here, there was a perception that this organisation had been doing the same old thing for a number of years. How that's changed!

EAN is moving at an incredible pace worldwide. Since our last issue, the link-up with the Uniform Code Council of America has been ratified and, from early next year, we will be known as GS1 (derived from "global standards: one").

EAN International has also created a new company, AutoID, Inc, which will commercialise electronic product technology developed by the Massachusetts Institute of Technology's Auto-ID Center (see page 19). This technology uses radio frequency combined with a network system and is a real breakthrough in real-time supply chain management.

As an international organisation, we are becoming involved with an increasing number of different industries. One example is the project with the World Customs Organisation to develop unique numbers for identifying consignments. The WCO is seeking to speed up the flow of goods and services, for the benefit of both customs organisations and international trade.

We're also seeing an intense focus on standards from the large FMCG manufacturers and retailers globally. In fact, so much do they want to be involved that there is currently a waiting list for the board of EAN International.

I believe that the need for universal standards is becoming more urgent as the global pace of change accelerates and the take-up of electronic communications and technologies such as RFID (radio frequency identification) increases. However, developing standards for new technologies isn't something that happens overnight. They must be practical and robust, able to be used globally and drawn up with industry involvement – yet who better than EAN to achieve this?

I'm proud to be part of an organisation that is go-ahead, has such a clear goal of reducing costs throughout the supply chain and is developing standards for the latest technologies to achieve that goal. What's more, these EAN innovations aren't just happening on the other side of the world: they're available here for you, as members, to tap into whenever you're ready.

As a prime example of this, you'll see in this issue that Foodstuffs New Zealand is to adopt EAN's electronic catalogue EANnet. Foodstuffs is the first company in New Zealand to run with EANnet, which is already in full swing across the Tasman.

Given the introduction of EANnet into this country, the commercialisation of RFID and other developments, I am thrilled to announce the appointment of Simon Dudding as General Manager of our Consultancy Service and head of our technical team.

Simon's extremely strong IT and managerial background means he is well placed to help you with a range of supply chain issues, as well as to ensure that EAN New Zealand establishes leadership in new technologies.

Please don't hesitate to contact Simon (you can read more about him and our new-look Consultancy Service on page 10) and, as always, I am very happy to hear from you with any comments or concerns.

Margaret Fitzgerald
Chief Executive



Foodstuffs leads the way with EANnet

In a landmark move, Foodstuffs has agreed to adopt EAN's electronic data synchronisation service, EANnet, making it the first New Zealand company to run with the technology.

Peter Egnelius, Logistics and IT Manager for Foodstuffs South Island, says the company has been very proactive in the implementation of e-commerce for a number of years, "so in many ways, this is just a natural step for us".

"We see a lot of improvements in efficiency and error reduction arising from the electronic transfer of product and pricing information between ourselves and our suppliers."

EANnet gives accurate and secure access to a range of product information including relationship-dependent information such as pricing, promotion and trading terms – online, instantly and from one trusted source.

"The experience we've had with other e-commerce and B2B processes is that they have eliminated between 70% and 90% of errors," Peter says.

"The experience in Australia shows that this sort of result is quite likely (with EANnet)."

EANnet is already firmly established across the Tasman, with the number of participating companies up 75 per cent over the past year to 317 and including industry heavyweights such as Woolworths, Coles, Gillette and Colgate-Palmolive. The grocery industry there has taken the lead, with 88 of Australia's top 100 grocery suppliers now subscribing to the system.

Other companies see benefits

EAN New Zealand Chief Executive Margaret Fitzgerald says a number of New Zealand grocery and healthcare organisations are already evaluating EANnet, "as they have seen the efficiencies and cost-savings being enjoyed by Australian firms".

"We're delighted that Foodstuffs has taken the initiative and we're confident that others will soon follow."

Foodstuffs' three IT managers - Peter Egnelius, Egon Guttke (Foodstuffs Wellington) and Mark Baker (Foodstuffs Auckland) – were sold on the system after an Australian study tour earlier this year to see EANnet in action.

"EANnet has the advantage of being well tested and implemented in Australia," Peter says.

"We hope it will be the standard in New Zealand for product and pricing synchronisation and updates, not just in the grocery industry but in other industries as well."

Neale Austen, EAN Australia's General Manager – eCatalogue Services, says the Foodstuffs' decision will provide significant leadership to the New Zealand supplier community to embrace data synchronisation standards through the use of EANnet.

One trans Tasman solution

"At the Australian Food & Grocery Council's Senior Executive Forum in 2001, the management boards of the Australian Food & Grocery Council and ECR Australasia stated that their objective was to have only one standard data synchronisation platform and electronic catalogue for the Australian and New Zealand food and grocery industry.

"The adoption of EANnet by Foodstuffs in New Zealand will be a significant step towards achieving that objective and will follow on from the substantial progress made in Australia over the past two years."

Neale says New Zealand companies operating trans Tasman are now being presented with a strengthening business imperative to embrace EANnet.

"Australian retailers will require their New Zealand-based suppliers to use EANnet so they can synchronise product data with them using exactly the same system and process they use with local suppliers.

"The pressure is also coming from Australian suppliers, who are sending a clear message to their retail trading partners that, not only do they want a single solution across their Australian trading partners, but also a consistent, trans Tasman solution.

"This objective is being driven by the desire to eliminate duplication and increase business efficiency through the adoption of industry standards for data synchronisation that are underpinned by global EAN•UCC standards."



KNIGHT OF NEW ZEALAND

Invercargill firm Knight of New Zealand exports top-quality apparel to Europe and the USA, priding itself on individually made garments and superb customer service. Bar coding each stage of the manufacturing process has allowed Knight to improve service levels and boost productivity.

More than 100 New Zealand and Australian clothing manufacturers use the Fabrix system developed by Wellington-based Dispersed Data Network Consultant (DDNC).

The company's co-founder, Phil Jones, says Fabrix is used by manufacturers, importers and distributors and can cover customer ordering through to manufacturing, accounting and dispatch. Users range from tiny boutique outlets to the likes of Australian Defence Apparel, which produces military uniforms as well as corporate wardrobes.

DDNC also incorporates the use of EAN-13 bar codes in the system it has developed for the jewellery industry. Job bags are used to track jobs in and out: in this case, because the items are so small, bar codes are applied directly to the bag.

Extremely warm and yet ultra lightweight, baby lambskin jackets are proving a hit with chilly German commuters and American fashionistas alike. ❄️ Invercargill's Knight of New Zealand makes high-end fashion jackets and coats from baby lambskins, garments that are retailing for up to \$US3,000 apiece. Managing Director John Rhodes says that over two-thirds of the company's clothing is exported, with key markets being Europe (predominantly Germany, Switzerland and Austria), the USA and Australia. ❄️ Thanks to burgeoning export growth, overall staff numbers at Knight of New Zealand have increased from 25 to 70 in the last three or four years. However, John says the number of clerical staff has actually declined in that period, thanks to efficiency gains from bar coding and associated software. ❄️ "Our jackets and coats are especially popular for commuters in Europe, who wear them over their suits, and they're very much a fashion statement in the US." ❄️ The lambskins used to make the garments are selected from the many lambs that die of natural causes shortly after birth. John says that lambskin weighs a fraction of adult sheepskin, but is just as warm. What is more, the natural skin fibres are tightly interlocked, making the material very strong and durable. ❄️ Producing the lambskin coats and jackets is extremely skilled work, John says. ❄️ "Each of our garments incorporates 25 to 30 lambskins and is made individually. We even have a signature label in each coat, signed by the two main workers on that garment."

EAN BAR CODES FOR EACH PRODUCTION STAGE

Before each garment is made, EAN bar codes are generated for each production stage and for the final product. Once a stage is complete, the worker attaches the appropriate bar code label to the production sheet. The sheet is then scanned to update the system. ❄️ "This makes things a lot quicker for our production people, who used to spend a lot of time writing down information. Now that they just have to stick on a label, it frees them up to do what they're best at." ❄️ John says bar coding allows the firm to monitor productivity very closely at each stage in production "so we can constantly update our standards". It also enables him to determine whether each style of garment is being priced according to the inputs it requires. ❄️ As the next step, the firm is looking at using EAN bar codes for receipt of inwards goods. However, a number of the firm's suppliers do not currently use bar codes and John says there are some limitations in any case, as the lambskins that make up each garment are chosen individually and may come from different batches.



TRACKING ORDERS IS ESSENTIAL

"We make about 6,000 garments a year and each of these involves up to ten hours' labour. With 60 different styles, ten colours, eight sizes (as well as different fits for different markets), the ability to keep track of orders is essential. ❄️ "We can't automate our production line - and we don't want to. But what we can do is automate our systems." ❄️ John says that once the firm started exporting to the ultra-competitive European market about six years ago, "we soon realised that our systems were a bit outmoded. We had a lot of piecemeal systems - little spreadsheets and so on". ❄️ The firm opted for a fully integrated software system called Fabrix, developed by Wellington-based company Dispersed Data Network Consultant (DDNC). Generating EAN-13 bar codes for each production stage of every garment allows comprehensive order tracking. ❄️ "Some of our styles have 13 different stages in the production process," John says. "If we have special orders, we need to be able to identify exactly where they are in the system so that we can provide our customers with a realistic shipping date. ❄️ "Our jackets sell in the US for \$US2500 to \$US3000 and for up to 3000 Euros in Europe. People paying those prices expect a lot, and very quickly." ❄️ "Going into Europe, we certainly had to sharpen up our act and, now that we are selling to the US as well, we can offer very good service to our American distributors."

DUTCH RUSK LTD

Confectionery and snack food distributor Dutch Rusk uses EAN bar coding to keep tabs on a myriad of stock items delivered by its fleet of eight trucks. CEO Willem Van de Geest credits the system with turning the company around.

Chocolate, candy, potato chips, muesli bars... all goodies you expect to find at the local corner store, service station or school tuck-shop.

Sourcing and supplying those items is the business of Nelson-based Dutch Rusk Ltd, a family-owned firm that set up shop nearly 20 years ago. The company buys confectionery and snack foods from local manufacturers and importers as well as importing some foodstuffs directly, then delivers them to outlets in the Nelson region, Marlborough, the West Coast, Canterbury and the lower North Island.

This is achieved by eight owner-operated trucks, some of which only return to base once a week. With over 2,000 product lines on the move, the logistical challenges are obvious.

CEO Willem Van de Geest, whose father founded the company, says that all sales orders were written out by hand until a few years ago.

"We used to load up the trucks and sell what we could. We were totally reliant on people's memories and their ability to charge the right amount.

"It was also hard to keep track of stock, to know when we needed to reorder and to manage our pricing.

"We really needed a lot more accuracy in our company."

Scanning goods on and off the truck

The answer lay in EAN bar coding and in the software program designed for Dutch Rusk in the late 1990s by Wellington company Pocket Solutions Ltd. Willem says a scanner and

printer were installed on each truck. Soon, items were being "scanned on" as each truck was stocked and "scanned off" as each item was sold.

"To start with, only about two-thirds of the products we were handling were already bar-coded and we had to produce EAN-13s for the rest. I suppose we forced a lot of our suppliers to put bar codes on, because we needed them to do this properly.

"Today, more like 90% of our products are already EAN bar-coded."

The software program also supports the company's stock management and accounting requirements.

"What it allowed us to do was to add up the sales on each truck at the end of the day," Willem says.

"That was a very big plus for our company. It meant we had an accurate measure of stock levels and could achieve accurate pricing.

"It turned our company around. We have improved our profit margins. The system probably took two years to pay off, and since then it's been clear profit."

While a couple of trucks handle local deliveries, others only come back to base once a week, and two are based permanently in Christchurch.

"Each truck has its own code, so that when it comes in for its weekly restocking our store staff scan all the items they put on against that particular truck. They then print off an invoice and add that to the total stock already in the truck.

"When goods are sold during the week, they are scanned off the truck and an accurate invoice can be printed out on the spot."

Willem says that the information on each truck's scanning system is transferred to the company's main system weekly, thereby updating the main database.

"It also works back the other way: we update prices once a week and that information goes back to each scanner."

Willem says that using EAN bar code technology has "taken the mistake element out of our operation".





Accurate invoicing

"We now have perfect accuracy with our invoicing and, when we stock-take, it's accurate, too."

"We're also achieving much better stock control. For example, we know that we have 18 boxes of Moro bars – three in truck one, one in truck two and so on – and can work out when we need to re-order."

Before, our ordering used to be very much off-the-cuff."

Pocket Solutions Marketing Manager Mark Roberts says the system, which he describes as van sales automation software, is now being used by a number of similar businesses.

"We originally designed the software just for Dutch Rusk as they had some specific requirements, such as being able to offer special discounting," Mark says.

"They also have situations where the customer they're selling to isn't the actual company getting the invoice. Goods might be delivered to Joe's Dairy, for example, but the invoice needs to go to a grocery chain."

"All the information about their stock and customers is plugged into the system and downloaded into the hand-held scanners. Then the driver selects the customer, scans the bar codes of the products being purchased and then enters a quantity before going on to the next item. Ultimately, an invoice is printed out."

Dutch Rusk employs two full-time and one part-time office workers, four store workers and a sales manager that oversees eight sales staff.

"I believe that's a pretty good ratio of sales to support staff," Willem says.

"If we didn't have this system, we'd have to employ two more admin people."

Since switching to EAN bar codes, Dutch Rusk has set up its Christchurch arm and has recently expanded its operation into the lower North Island.

"With these systems in place, we certainly have much more opportunity to grow the business."



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From left: Greg Shipton, Packaging Development Manager, Goodman Fielder NZ / Colin Robertson, Chairman EAN NZ
Sharyn Jensen, first Certificate Course Graduate / Jolene Graham, second Certificate Course Graduate / Owen Dance, EAN NZ

First graduate for Certificate Course

The first graduate of EAN's new Certificate Course in Automatic Data Capture standards, Sharyn Jensen of Goodman Fielder New Zealand, completed the course "in style".

That is according to EAN New Zealand's Accreditation Consultant Owen Dance, who says that Sharyn's marks for course assignments were consistently in the high eighties or nineties.

"Sharyn was the first person in the world to qualify and did so in style," Owen says.

"Her feedback on the course material, in particular on the self-administered tests, has also been extremely valuable."

Sharyn is EAN Coordinator for Goodman Fielder (an EAN-accredited company) as well as administrator for the technical team.

"Most of my job involves verifications," Sharyn says. "Everything in the artwork and final packaging needs to be checked before it goes out because, if a bar code isn't right, it could put market acceptability of the product at risk."

"While I'm not involved on the printing side, the rest of the course was directly relevant to what I do and I've certainly learnt a lot from it."

Goodman Fielder has also produced the second graduate of the certificate course, as Packaging Development Senior Technologist Jolene Graham has just qualified. Packaging Development Manager Greg Shipton is also enrolled and underway.

Strong interest in course

The certificate course was developed and launched by EAN New Zealand earlier this year (SCAN, April 2003) and has been attracting attention both nationally and internationally.

Staff from labelling companies, from the country's largest wine maker, a major grocery manufacturer and print firms are among those already enrolled, while Owen says that new enquiries are coming in daily.

The certificate course covers all aspects of EAN.UCC numbering and bar coding, including print and design aspects, the particular requirements of the grocery trade in Australia and New Zealand (which are based closely on EAN General Specifications and therefore are suitable for application to other sectors) and how to establish a bar code quality system within an organisation.

The course can be completed by correspondence and includes a web-based component developed by EAN International.

"Sharyn estimated that the course took her around 35 hours in total, which is consistent with our estimates," Owen says.

Following strong international interest from the Uniform Code Council, e-centre UK and a number of other EAN member organisations, EAN New Zealand is now producing a fully electronic version of the course.

For more information, contact Owen Dance
(04) 801 2894 or owen.dance@ean.co.nz



MANAGING global standards

The Global Standards Management Process (GSMP) was established to provide transparency for changes or additions being considered to the EAN.UCC standards and specifications, as well as a means for members to contribute to those changes.

Requests being considered currently include:

- a global solution for the identification and symbol marking of fresh produce
- a proposal to rewrite Section 5.4 of the General EAN.UCC Specifications, which deals with bar code production and print quality (input from members on this proposal would be more than welcome)
- a proposal to recognise the different types of brand (product, product range and corporate) and to consider how that would affect GTIN Allocation Rules
- a request to introduce Data Matrix for direct part marking of very small items such as surgical instruments.

Another change request, known as "kill the 9", aims to simplify the EAN.UCC recommendations for identifying variable measure trade items by removing the indicator "9". This raises a number of fundamental questions and has led to a roaring debate in the AIDC (Automatic Information Data Capture) team. Further progress on this change request will require prior approval from the Executive Management Team.

For further information, go to www.ean.co.nz or contact Raman Chhima (member of the GSMP AIDC Technical Development Team) on (04) 801 2895 or raman.chhima@ean.co.nz

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EAN boosts consultancy services

EAN New Zealand has appointed Simon Dudding as General Manager Consultancy Services as the first step towards its goal of establishing the country's premier supply chain consultancy.

Simon has 20 years' experience in the IT industry and has been a Senior Manager at Cap Gemini Ernst & Young and at IBM Global Services. His most recent position was General Manager – Integrated Solutions for Walker Datavision.

The many skills Simon brings to the position include expertise in ERP (enterprise resource planning) implementation, supply chain business processes and e-commerce enablement through the use of EAN standards. He has worked with a wide range of organisations to develop business cases and implement IT solutions.

EAN New Zealand Chief Executive Margaret Fitzgerald says that EAN has needed this kind of expertise on board to properly serve its members.

"We know from surveying our members that many of them want advice and assistance beyond the core services that we offer," Margaret says. "Simon's extensive IT and consulting experience – as well as his ability to build the business case – will be an enormous asset."

Margaret says EAN New Zealand's goal is to establish the country's premier supply chain consultancy, in line with EAN International's drive to be number one in supply chain standards.

Simon is already familiar with a number of EAN tools, having worked closely with its electronic messaging standards in particular, and has spoken previously at EAN seminars on implementation and indicative costings for "track and trace".

As well as being responsible for EAN New Zealand's consultancy services, Simon will lead EAN New Zealand's technical team and liaise with other EAN affiliates globally as new technologies are developed.

"New Zealand is seen as an excellent environment in which to pilot technology, and we will certainly be looking to establish some leadership in this area," Margaret says.

EAN members can contact Simon on 021 704 703 or simon.dudding@ean.co.nz

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Huge retail conference heads this way

Some of the world's most powerful retailers will visit New Zealand next month, when the massive Asian Retailers Convention and Exhibition (ARCE) comes here for the first time.

The convention, which is being hosted by the New Zealand Retailers Association, will be one of the largest trade events ever held in this country. Up to 2,000 delegates and exhibitors from 14 countries and regions are expected to attend the convention, which takes place in Christchurch from September 23 to 25.

Big name attendees include Peter Williams, chief executive of Britain's Selfridges, and Ms Wan Wen Ying, who co-founded the Beijing Lufthansa Shopping Centre and was influential in modernising China's retail scene. Senior managers from shopping icons such as Wal-Mart, David Jones and Japan's Isetan will also attend and share their experiences with delegates, while other speakers will discuss the latest retail trends, economic prospects and technological developments.

NZ Retailers Association Chief Executive who is also Vice-Chairman of the EAN New board, says the convention provides opportunity for local retailers to hear first-hand from some of the most experienced people in the business.

"The associated exhibition will also appeal to technology companies and other firms who supply products to retailers," John says. "In particular, it lets our exporters showcase their goods to a hugely influential audience at very low cost.

"The regions sending delegates to this event represent a third of the world's population and have annual retail sales worth about US\$4,000 billion. Normally, our exporters have to fly overseas to attend a trade event of this calibre."

John Albertson,
Zealand
a great



AutoID, Inc President Dicki Lulay to speak

EAN New Zealand is delighted to announce that Dicki Lulay, Senior Vice President of the Uniform Code Council (an EAN affiliate) and President of AutoID, Inc, will speak at the convention.

Dicki is responsible for directing the UCC's Electronic Product Code (EPC) network strategy through the new entity, AutoID, Inc, a joint venture between the UCC and EAN International (see story page

19). She manages all aspects of the organisation's commercialisation strategy for the EPC, including developing global standards, promoting global multi-industry adoption of EPC technology, implementation support and industry education.

Her conference presentation will illustrate how EPC gives businesses the potential to make dramatic improvements in the way inventory is managed in the supply chain.

For information on the speakers, the conference programme and registration, go to www.asianretailers.org



11TH ARCE



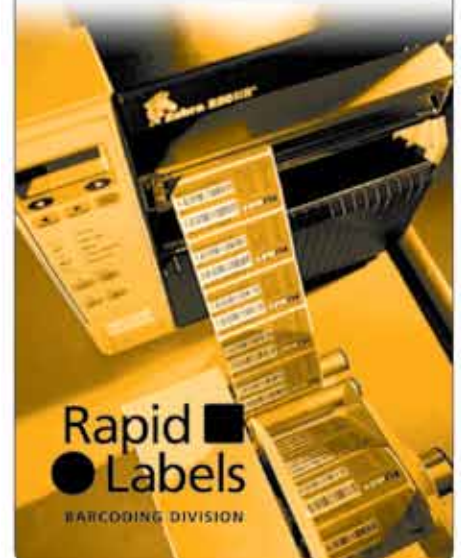
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A guide to Scanners

We are often asked by members for information on equipment. The following article should help you make sense of scanners: it explains the basics, sorts out the different types of scanner and gives some pointers on choosing new equipment. We will feature printers in a future issue of SCAN.

While a shop checkout is one of the first places most people see scanners in operation, they can be used at any point in the supply chain, including manufacturing and wholesaling.

As scanners increase the speed of data capture and reduce errors in data collection, they provide accurate data that can be used in many functions and management processes. These include retailing, ordering and invoicing, tracking and tracing, asset tracking, stock control, item recognition, returns and rotation.

Additional benefits come from combining this automatic data capture with other software such as pallet consolidation systems, purchasing, warehouse management, electronic communications, catalogues, and track and trace.

How scanners work

A scanner detects and measures the pattern of light and dark bars in a bar code. It projects light on to the symbol, measures the rising and falling patterns of reflected light and converts this pattern into signals of varying strength. These signals are sent to decoding software and translated into data that is then sent to supporting systems.

Some types of scanner read the bar codes at a distance: these are known as non-contact devices. Other types, such as scanning pens or wands, are known as contact devices and must actually touch the bar code.

Whether a scanner can read a bar code of a particular type, or symbology, depends on whether the associated software is programmed to decode that symbology. Since EAN.UCC is the worldwide retail standard, most scanners in retail outlets can only read the "usual" retail bar codes: EAN-13, EAN-8, UPC-A and UPC-E.

Scanners used in warehouses and distribution centres can usually read these bar codes as well and will also read ITF-14 and EAN-128, the symbologies used on shippers and pallets. Other scanners used for purposes that may not involve the EAN.UCC system, such as airport luggage-handling systems, may read none of these but will read other symbologies such as Code 39.

Fixed or portable?

If the scanning is to be carried out at a fixed point, such as inwards goods or a sales checkout, a fixed position scanner may be appropriate. The scanner's power supply can be fixed and it can send data in real time to the host computer.

Portable scanners are needed for situations such as scanning products for stocktaking purposes. These usually store the scanned data until it can be downloaded, although some use radio frequency to transmit data to a host computer in real time.

All scanners require a power source, provided by either batteries or the main power supply.

Different types of scanner

New types of scanner are being developed constantly and there is a wide range of prices and styles. Your best bet is to consider the features offered by each type and decide which offers the most benefits for your intended use.

There are four main types of scanner: pens (sometimes called wands), lasers, charge-coupled devices (CCD) and cameras. Some of these are hand-held (held by the operator) and some are mounted in fixed positions.

Pens or wands are always hand-held and must make direct contact with the bar code symbol throughout scanning. They are placed at one end of the symbol and moved briskly across the code. Because direct contact occurs, these scanners can damage bar codes and reduce their quality, so they are less suitable in situations where the same label is scanned repeatedly.

Laser scanners can be fixed or hand-held and work by projecting a beam of light onto the bar code. The maximum width of the bar code that laser scanners can read depends on the width and pattern of the laser beam, which can be projected in one of four ways:

- **Single line:** a single line is projected onto a specific area of the symbol, either by a human operator or a mounted scanner in





a fixed position

- **Raster:** a pattern of parallel or grid lines is projected onto the unit to locate the bar code (this type of scanner is always fixed)
- **Oscillating Mirror:** a single laser beam uses a moving mirror to sweep up and down in order to locate a bar code, covering a large area as it sweeps (again, this type is always fixed)
- **Omnidirectional:** patterns of lines at different angles are projected across the bar code. The EAN-8, EAN-13, and UPC-E bar codes are designed to be read in any position in front of this type of scanner. Omnidirectional scanners have generally been fixed position scanners, typically seen in supermarkets, but omnidirectional hand-held scanners are now available.

CCD and Imaging scanners illuminate the bar code, effectively taking a one-dimensional picture of a complete cross-section of the bar code so it can then be decoded. Contact and non-contact versions are available.

Camera scanners capture a two-dimensional image of the product, which is processed in real time. The camera usually searches for and decodes conventional bar codes, but sometimes other identifying marks are decoded, such as the text in an address postcode. Camera scanners can offer much quicker data capture and a higher read rate, as they can decode poorer quality symbols than other scanning technologies. This makes them ideal for high-speed situations where units pass fixed scanning points very quickly. While they are often more expensive than other types of scanner, their running costs may be much lower because of their greater performance and speed (high speed can be defined as a transport conveyor speed up to 2.0 metres/second).

Unless the conditions are physically beyond the capabilities of the equipment involved, all scanners linked to the appropriate software will successfully scan an EAN.UCC bar code that complies with EAN.UCC Specifications.

What to look for

So, what should you buy? When assessing your requirements, it is worth considering the following points:

- Where will the scanners be used? For example, will they be on a production line, in a warehouse, at retail or other point-of-sale, outdoors or indoors?
- Will they be fixed or portable, mounted or hand-held? Over what distance will you need to read the bar codes?
- What is the physical environment: dusty, wet, vibrating, freezing?
- What type of products will be scanned: consumer units, traded units logistics units?
- Which bar code symbologies will be scanned: retail, distribution, non-EAN?
- Will the scanners be used by trained staff or inexperienced users?
- How many scanners will you need and in what positions? For example, while hand-held scanners may suit points of sale, several fixed scanners may be required to scan goods passing on conveyor belts within a warehouse.
- What are your system considerations? Will the scanning software be compatible with existing systems and will the combination meet the requirements of your proposed system?
- What is your budget for the scanning installation and for any service and training costs?

A P P L I C A T I O N	T Y P E		T E C H N O L O G Y						
	Hand-held/ portable	Fixed position	Pens or wands	Laser: Single line	Laser: Raster	Laser: Oscillating mirror	Laser: Omni- directional	CCD	Camera
Point of sale	YES	YES		YES	YES		YES	YES	
WAREHOUSE MANAGEMENT	- Stock picking	YES		YES	YES		YES	YES	
	- Inventory control / stock audit	YES		YES	YES		YES	YES	
	- Goods in	YES	YES	YES	YES	YES	YES	YES	YES
	- Goods out	YES	YES	YES	YES	YES	YES	YES	YES
On-line scanning*		YES		YES	YES	YES	YES		YES**
Mobile scanning***	YES	YES	YES	YES	YES		YES	YES	

* Such as scanning items on a conveyor belt within a production, distribution or warehouse environment

** Particularly suitable for high speed conveyor belt operations

*** For example, a mobile unit on a truck scanning items as they are delivered, a mobile unit on a trolley administering foods/drugs, shelf-edge scanning etc

For further information:

Visit the Solution Provider Finder on e.centre's website, at www.e-centre.org.uk
See the Automatic Identification Manufacturers Association website at www.aimglobal.org for further details on automatic identification and data capture technology, and for global lists of equipment suppliers.

EAN NZ thanks Britain's EAN organisation e.centre UK for assistance in the preparation of this article

New Chief Executive for EAN International



EAN International has a new CEO, Spanish national Miguel-Angel Lopera, to take over from retiring head Brian Smith.

Mr Lopera brings a wealth of general management and marketing experience to the position, which he has gained in every aspect of the FMCG business. He spent 24 years with Proctor & Gamble, initially in IT and marketing roles and then

progressing to divisional management in Brussels and Madrid.

Mr Lopera is already familiar with the EAN community, as he was a director of AECOC-EAN Spain from 1985 to 1990. He is based at EAN International's Head Office in Brussels.

NEW STAFF James Egan



EAN New Zealand has appointed James Egan as Territory Manager based in Auckland, covering Taupo and further north. He joins Matthew Sheehy, who is Territory Manager for the South Island and lower North Island.

James has a strong background in account management and retail. Most recently, he was Key Account Manager – National Accounts for Kodak New Zealand Ltd. In this role, he was charged with looking after a number of major accounts to ensure the growth and promotion of the Kodak brand and products within the food and mass markets.

James has also held positions as Business Support Manager and Retail Operations Manager for Kodak NZ. He has also worked as a project manager for a residential building company and has worked in the meat export industry, involved in setting up stock

procurement and foreign exchange systems for beef exporter Greenlea Premier Meats.

James holds a Graduate Diploma (Finance) in Business from Auckland University.

"I am looking forward to helping EAN members achieve an efficient supply chain that will deliver greater productivity, better customer service and increased profitability through the use of EAN systems and services," James says.

"One of my aims is for EAN to be an integral part of our members' business."

EAN members can contact James on
021 711 169 or james.egan@ean.co.nz

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SEMINAR UPDATE

AUGUST:

New seminars highlight mobility

EAN New Zealand has developed a new bar code training format in time for its next seminar series later this month.

The full-day **Bar Code Foundation Courses** will be held in Auckland, Wellington and Christchurch on August 25, 27 and 29 respectively.

The first session of each course includes workshops and will cover bar code basics as well as print and packaging design. This session, which will run until early afternoon, is aimed at new members and new recruits from existing member organisations.

The second session will be an executive-level presentation on business applications for bar coding and ADC (automatic data capture) technology. The theme for this seminar series is mobility: case studies and demonstrations by Walker Datavision will focus on business solutions for the mobile sales force.

OCTOBER:

Application of EANnet

A series of seminars on the application of EANnet, EAN's electronic catalogue, has just been scheduled for mid October. Please check the EAN New Zealand website www.ean.co.nz for full details nearer the time.

RECENT SEMINARS:

From winemakers to warehouses

EAN New Zealand seminars held recently included a three-city series looking at warehouse and inventory solutions for New Zealand businesses. These seminars reviewed the EAN numbering systems for logistical units and examined efficiency gains to be made along the supply chain.

A seminar series was also held for the wine industry in three centres: Marlborough, Hawkes Bay and Auckland. These were attended by winery staff as well as wine distributors, printers and others associated with the industry.

The seminars included information on the application of bar codes to imported and exported products and on achieving traceability within the wine industry. Foodstuffs also made a presentation at each region explaining its procedures for accepting wine products into its stores, common problems experienced with wine labelling and the importance of bar coding to its operation.

For the latest information on all EAN New Zealand seminars, go to www.ean.co.nz or call 04 801 0833

RFID's greatest hit

A pilot scheme evaluating the use of Radio Frequency Identification (RFID) technology in the music supply chain has found that business efficiency is top of the pops.

Music maker EMI and British music retailer ASDA Stores took part in the pilot, which was managed by EAN's UK affiliate e-centre and involved the "tagging" of CDs through a typical music supply chain (SCAN, December 2002).

e-centre has now released its report on the pilot, *CD.id - RFID's greatest hit*, and this concludes that business efficiency will be the number one driver for the adoption of RFID throughout UK supply chains.

The report also points to an immediate future for RFID technology for logistics units and for higher-value, lower volume items such as mobile phones, consumer electronics and clothes.



Name that tune – the reader identifies a CD



Some RF tags are now smaller than grains of rice!

e-centre's RFID project manager Stuart Dean said it was entirely conceivable that, in five to ten years' time, products could travel through the supply chain with little or no human intervention.

"It's this enhanced capability for automation that really gives RFID its appeal," he said.

"The report proves conclusively that there is a long-term future for RFID and that business is willing to support its adoption with the understanding that it is regulated through EAN.UCC standards."

For a full copy of the report,
go to www.e-centre.org.uk/frameset_press.htm

Trading Loss Prevention Manager for Asda Stores, Kate DeFraja, said the biggest potential benefit for her company that the trial identified was supply chain integrity. She said that RFID technology could help Asda identify and reduce the number of discrepancies between what its suppliers invoiced it for and the goods actually received.

"The other big benefit will be the automatic updating of the inventory system as the product enters the back of the store. By using RFID readers that read multiple tags in a delivery, we can eliminate the need for manual scanning."



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Code safeguards consumers' interests

EAN New Zealand has reissued its retail Code of Practice, which covers the use of bar codes in stores.

The Code of Practice was first developed 12 years ago between retailers, the Consumers' Institute and EAN. It safeguards consumers' interests by setting out clear guidelines for the use of point-of-sale systems, so that shelf prices and check-out prices tally and prices are clearly visible to customers in both locations.

The Code was first printed in late 1991 and revised three years later. EAN New Zealand approached the Consumers' Institute before the recent redesign and reprint to check that it was still appropriate.

Consumers' Institute Chief Executive David Russell says the Code was one of the first industry codes of practice in New Zealand and he believes that it is extremely worthwhile.

"It sets the guidelines and put everyone on notice about what they should be doing," David says.

"It's also important that it is reviewed from time to time so that it keeps pace with what's happening."

David says the Consumers' Institute has only had a "very occasional" complaint relating to bar codes, where the advertised shelf price has differed from the till price. "However, in most cases, this has been an administrative hiccup."

The reprinted Code will also form part of a retail training package that EAN New Zealand is developing for supermarkets. This will provide help with in-store bar coding and the use of thermal printers in areas such as supermarket bakeries and delicatessens.

The reprint of the Code of Practice has been sponsored by Transtech Distributors Ltd, New Zealand's largest wholesale distributor of point-of-sale and bar coding equipment. Transtech has offices in Auckland and Christchurch.



Raising EAN's profile in healthcare

EAN New Zealand made a strong showing at a top-level healthcare conference held in Auckland recently, with Chief Executive Margaret Fitzgerald delivering a paper on the first day and the organisation also partnering with Symbol Technologies to present an innovative display.

The conference was themed "Advancing Knowledge for Quality Healthcare" and provided an open forum for interested parties to keep pace with the latest developments and technologies. It was organised jointly by four professional health-related groups – Health Informatics NZ, NZ Health IT Cluster, NZ Institute of Health Management and the NZHL7 Users Group – along with the Ministry of Health.

Margaret's paper was titled "Using bar code technology to boost patient safety and cut costs". In her presentation, she outlined the EAN experience internationally – 45 countries already use the EAN.UCC system for coding prescription and over-the-counter drugs – and called for participants in a local working

group to look at greater use of automatic data capture in the New Zealand healthcare industry.

"Healthcare providers internationally are moving to use open, global EAN.UCC system for track and trace," Margaret says. "We believe it is really important that the healthcare industry here goes down the same road and doesn't use a limited proprietary system that will add – instead of reduce – costs in the supply chain."

EAN New Zealand's display at the conference included samples of RSS bar coding (Reduced Space Symbology is being used increasingly in the healthcare industry to code very small items such as single-dose medicines) and an interactive demonstration showing how automatic data capture methods could be used within hospitals to boost patient safety. The display also included a demonstration of the electronic catalogue EANnet.

For a copy of EAN New Zealand's conference paper, go to www.ean.co.nz



International health updates

The healthcare industry worldwide is taking some positive steps to implement the EAN.UCC system, recognising the benefits it offers in data management, cost efficiency and improved patient safety. Some recent examples are:

- In Australia, the Commonwealth Minister for Health and Ageing has announced the endorsement of EAN's electronic catalogue EANnet as the country's central medicines database. This was identified as a "significant milestone in the development of a central, trusted and authenticated source of medicine information" which would lead to better health outcomes for Australians. The use of EANnet will enable the reliable electronic transmission of medicines information between different healthcare providers.
- EAN Nederland has launched a trial in the Tweestedenziekhuis, a hospital in The Netherlands, based on Reduced Space Symbology and Composite Symbology (RSS/CS) and aimed at decreasing staff workloads and eradicating errors. The system will ensure that all patients receive the correct drugs at the correct time. The Dutch healthcare sector adopted the EAN.UCC system in 2000.
- CCG, the EAN organisation in Germany, is running a pilot project with four hospitals and three producers of medical devices to establish a cost and efficiency analysis resulting from the implementation of EDI (electronic data interchange) based on EAN standards. A study of this project has shown that implementing EANCOM, EAN's electronic messaging system, in one of these hospitals has reduced costs in this area by up to 41 per cent.

For the latest information on EAN healthcare projects overseas, go to www.ean-int.org/health.html

AutoID

on its way to market

A breakthrough has been made in commercialising the technology that will enable companies to have true visibility of their supply chains in real time, in any industry, anywhere in the world.

EAN and the UCC are to set up a non-profit organisation, AutoID, Inc, to develop and oversee commercial and technical standards for the Electronic Product Code (EPC™) Network. EPC technology has been developed by the Massachusetts Institute of Technology's Auto-ID Center and uses radio frequency combined with a network system to allow items or products to be identified throughout the supply chain.

EAN New Zealand Chief Executive Margaret Fitzgerald says the commercialisation of EPC technology under the EAN-UCC banner is a significant breakthrough.

"It creates the ideal environment for developing open, global standards for radio frequency identification

and will benefit all industry sectors, in particular fast-moving consumer goods, healthcare, apparel government and transportation."

The Auto-ID Center, which has the UCC as one of its founding sponsors, has been working on this technology for the past four years at its MIT facility and at research facilities based in leading universities in Britain, Australia, Switzerland, Japan and China. AutoID, Inc will continue to work closely with the Auto-ID Center and its sister labs to bring the technology to market and to make ongoing refinements.

The agreement with MIT to licence the EPC technology takes effect in November and AutoID, Inc will then be established. EAN and the UCC will also form an implementation taskforce over the next few months to start issuing EPCs.

What's the difference between AutoID, EPC and RFID?

Automatic Identification, or AutoID, is the overall term for technologies that allow machines such as computers to identify objects automatically.

Radio Frequency Identification (RFID) is just one type of AutoID technology. An RFID system entails labelling objects with "tags" (microchips with a radio frequency antenna) that store data. A "reader" wakes up the tags using radio waves and captures the data automatically, so it can then be processed. Because radio waves are used, items can be scanned without any direct contact or even visibility between the reader and the tag. What is more, many items can be scanned at the same time.

EPC™ is the specific system that has been developed by the AutoID Center and has been described as "retail's implementation of RFID". Special Electronic Product Codes and an ID system of radio frequency readers and tags form part of a network that allows real-time supply chain management.

What are the Electronic Product Codes?

EPC numbers identify uniquely every single instance of a product (such as every tin of coffee within a SKU). They complement the symbologies currently used in the EAN. UCC System.

Global Trade Identification Numbers (GTIN) are part of the data structure that makes up EPCs.

Major companies already committed

Meanwhile, a number of major companies have already made a commitment to EPC technology. These include:

- Gillette, which puts 11 billion items into the supply chain annually, has ordered 500 million RFID tags and has a number of pilot initiatives underway. As Gillette Vice-President Dick Cantwell says, "We see huge opportunity with the EPC to give us the ability to track our products to make sure they are on the shelf when the consumer wants to buy them".
- Germany's largest retailer, Metro AG, has opened a concept store which uses EPC infrastructure technology (but not actual EPC numbers, as none have been issued yet) to track goods from suppliers to distribution centres to the back of the store and finally to the shelves. Suppliers including Gillette, Kraft and Proctor & Gamble are working with Metro to tag goods.
- Marks & Spencer has also announced that it will run a pilot programme using EPC to track clothes through the supply chain.

For more information about Auto ID, Inc, go to www.ean-int.org/AutoID.htm or www.uc-council.org/AutoID.htm or contact Margaret Fitzgerald at Margaret.Fitzgerald@ean.co.nz



EAN-128: getting it right

An EAN-128 bar code received by EAN New Zealand's verification team had the packaging date encoded as 99 January 2011. Presumably, the intention was to encode the date 11 January 1999. The catch is that, apart from the date not making sense, some scanning systems may not flag the first date as an error and then incorrect data works its way through the system.

Do you need EAN-128?

If you need to include date information in your bar code, then EAN-128 bar codes are the one to use. The diagram below will help you determine whether these bar codes are appropriate.

Application Identifiers

When encoding data into an EAN-128 bar code, you need to specify what information it contains by using Application Identifiers (AIs).

The table on the right contains the most common AIs used by the grocery industry (for more information regarding the use of AIs, please contact EAN New Zealand).

AI	SIGNIFICANCE	FORMAT
00	Serial Shipping Container Code (SSCC)	18 numeric digits
01	Global Trade Item Number (GTIN)	14 numeric digits
02	GTIN of a trade item contained within a logistic unit	14 numeric digits
10	Batch or lot number	Up to 20 alphanumeric characters
11	Production date	6 numeric digits
13	Packaging date	6 numeric digits
15	Best Before date	6 numeric digits
17	Expiry date (Use-by)	6 numeric digits
21	Serial number	Up to 20 alphanumeric characters
310n	Net weight in kg (<i>the position of the decimal point is defined by n</i>)	6 numeric digits
37	Quantity	Up to 8 numeric digits

Brackets should be placed around the AI's in the human-readable numbers below the bars (however, do not encode these brackets in the bar code).

(021) 704 703 or simon.dudding@ean.co.nz

Encoding the date

As shown in the table, different AIs are used for different types of date. For example, an AI of 11 is used for a production date, while 17 indicates the expiry, or use-by, date. It is essential that you use the correct AI for the type of date that you want to encode.

There is a standard format for representing date information so that it can be recognised universally. The date must be encoded as a six digit number as follows (a Best Before date - which has an AI of 15 - is used in this example):

FORMAT OF THE ELEMENT STRING						
Application identifier	Best Before date					
	Year		Month		Day	
1 5	N1	N2	N3	N4	N5	N6

The structure is:

Year: the tens and units of the year (eg 2003 = 03), which is mandatory

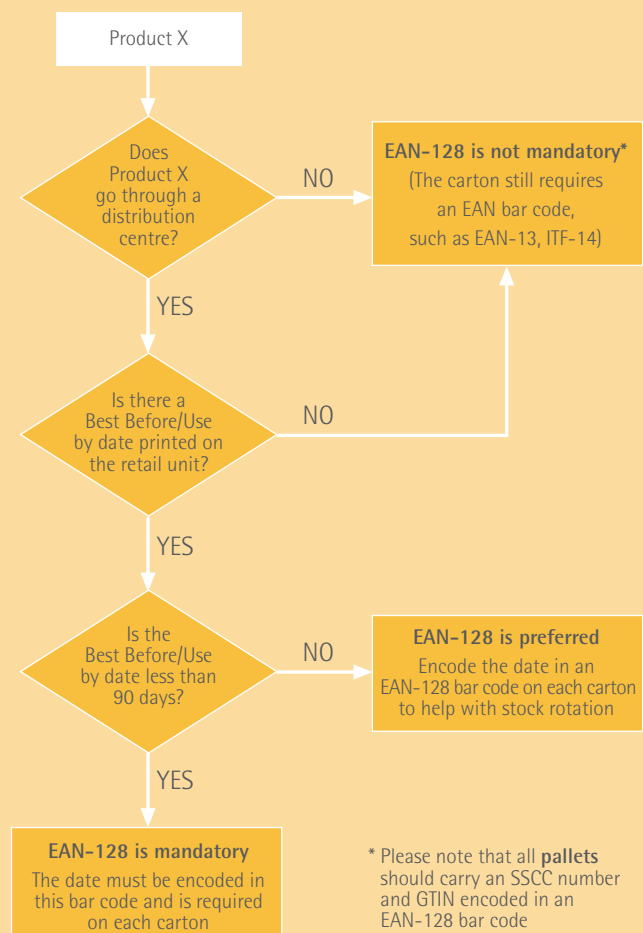
Month: the number of the month (eg January = 01), which is mandatory

Day: the number of the day of the relevant month (eg second day = 02). If it is not necessary to specify the day, the field must be filled with two zeros

Therefore, a Best Before date of 30th May 2004 would be encoded as (15)040530.

For more information on the application and use of EAN-128 bar codes, contact Rob Turner (04) 801 2896 or robert.turner@ean.co.nz or Simon Dudding

Do you need to encode the date in the bar code?



Focus on traceability

Improved labelling and traceability for fresh produce was a hot topic for discussion at a recent horticulture conference in Auckland.

EAN New Zealand Chief Executive Margaret Fitzgerald spoke at the Produce Plus conference on issues for produce market access, noting that traceability would be a legal requirement in European markets by 2005 and that consumer concerns for food safety, traceability and convenience were driving standards worldwide.

"Anyone that goes to a supermarket has experienced hold-ups at the checkout while operators look up the correct codes for fresh produce, decide what type of apple you've bought and so on," Margaret said.

"With the advent of RSS (Reduced Space Symbology), the bar coding solutions are already there. It's just a case of people having the technology to read them."

Margaret said the use of such systems would allow full and accurate product identification of loose items, increase speed and accuracy at the checkout, provide better category management information and reduce spoilage and shrinkage. She also stressed the benefits of using the open, global and multi-sectorial EAN-UCC standards to cut costs and improve efficiencies in the supply chain.

Meanwhile, the keynote speaker at the conference, Dr Roberta Cook from the Department of Agriculture and Resource Economics at the University of California, Davis, noted the growing global importance of supermarket chains and their role in stimulating fresh produce trade.

Dr Cook said that retailers and shippers would feel more incentives to focus on supply chain management, in spite of the special challenges presented by the dominance of weather factors in fresh produce supply.

She said the special characteristics of the fresh produce industry were that items were mostly sold in bulk (unscanned), slowing category management. However, data quality was improving "and category management is beginning to influence the balance of power".

Dr Cook said that more pressure was coming on shippers to assist in category management, as they were becoming the buying agents for the large retail groups.

An international take on traceability

EAN International's Supply Chain and e-Business Expert Group and Freshfel Europe met in Valencia last month to look at the application of Fresh Produce Traceability Guidelines and issues relating to traceability and food safety.

For a summary of the meeting, EAN International's presentation on traceability and individual presentations by the companies attending (including Dole Europe, Bonita and Martin Navarro), please go to www.ean-int.org/agro-food.html (click on "fruits and vegetables" on the right hand menu).

Agriculture and Food information on-line

New to EAN International's website is an Agriculture & Food resource page, found at www.ean-int.org/agro-food.html

As well as providing information on EAN's objectives, strategy and activities in this sector, specific pages are dedicated to news, events, agricultural inputs, meat, fish, fruits and vegetables, wine and spirits, processed food & beverages, food service, and to food safety, quality and traceability. The page will be updated continually and new resources added.



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 Variety Imports
 Eco-Pal Ltd
 McNair Imports and Distribution Co Ltd

Change in URL for EAN International

Please note that EAN International's website is now to be found exclusively on www.ean-int.org

The previous website www.ean.be no longer exists and the "ean.be" domain name has been withdrawn and disconnected. Anyone who has logged this as a favourite or as a hyperlink in a web page should replace it with the new URL.



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when bar codes go bad

Background variations

Recently EAN has seen a spate of products whose bar codes were good when they were printed, but which failed to scan reliably in the marketplace.

The problem: the colour or texture of the products inside the packages was subtly affecting the bar codes' background. In each case, the printer had verified the labels correctly, but could only make a 'best guess' at the product colour for the verification tests.

Scanner light behaves differently when it hits real cheese than when it strikes cheese-coloured paper, while real biscuits have surfaces with reflective properties unlike those of light brown paper. Even where texture is not a factor, slight differences in colour can make large differences in reflective properties under scanner light. In addition, spaces between items in a package may create shadows that do not occur against a flat background.

Denser label materials or thicker ink may reduce or eliminate 'show-through', but the only completely reliable testing for bar code symbols is when they are on the product in its final form ready for the retailer's shelf.

Label and packaging suppliers – especially accredited ones – will always do their best to ensure bar code quality. However, only the brand owner knows the final form of the product and that is why the brand owner is always finally responsible for the scanning reliability of the bar code.

Technical hint: Where 'show-through' is a problem, white may not be the best background colour. Cream or a strong red, yellow or orange may do a better job of obscuring the product colour while still providing good background reflectance. Ask EAN New Zealand for more detailed advice.

Too light on the light margin

The light margin is the blank area that surrounds the bar code and shows the scanner where the bar code starts and finishes. The lesson from the following example is that light margins should be generous and not printed at the absolute minimum.

A supplier of packaging film was asked to print an information panel surrounded by a fine black border right alongside a bar code. Space constraints meant that one border ran exactly down the edge of one of the light margins. The bar codes scanned erratically at best. Simply removing the border from around the text solved the problem completely.

Marginal error

We are often asked "Why do you sometimes fail a bar code at the verification stage when it scans perfectly when I try it?" A member sent us a six-pack of imported beer that showed why verification is a better and more useful test than simple scanning.

The EAN-13 bar code on the cardboard carton of the six-pack had a right-hand light margin that was precisely balanced between too narrow and just right: it passed some tests, yet other times it would fail. The result depended on the exact line the scanner light took as it crossed the symbol. Over ten scans, the bar code sometimes performed well enough on average to just pass, but it was just as likely to fail over the next ten scans.

The scanners in our office scanned the symbol every time, but none of the scanners in the distribution centre of a New Zealand supermarket operator could scan it at all, even though some of those scanners were newer than ours. Intrigued, we went to the shop and bought another six-pack: this one failed verification on every attempt.

The story has two morals. First, verifiers are the only way to assess the scanning performance of bar codes. Second, a clear pass on a full EAN verification test is the only test result to accept. EAN will not pass samples with results as variable as in this case.



▶ ◀ Light margin error indicated

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