

SCAN

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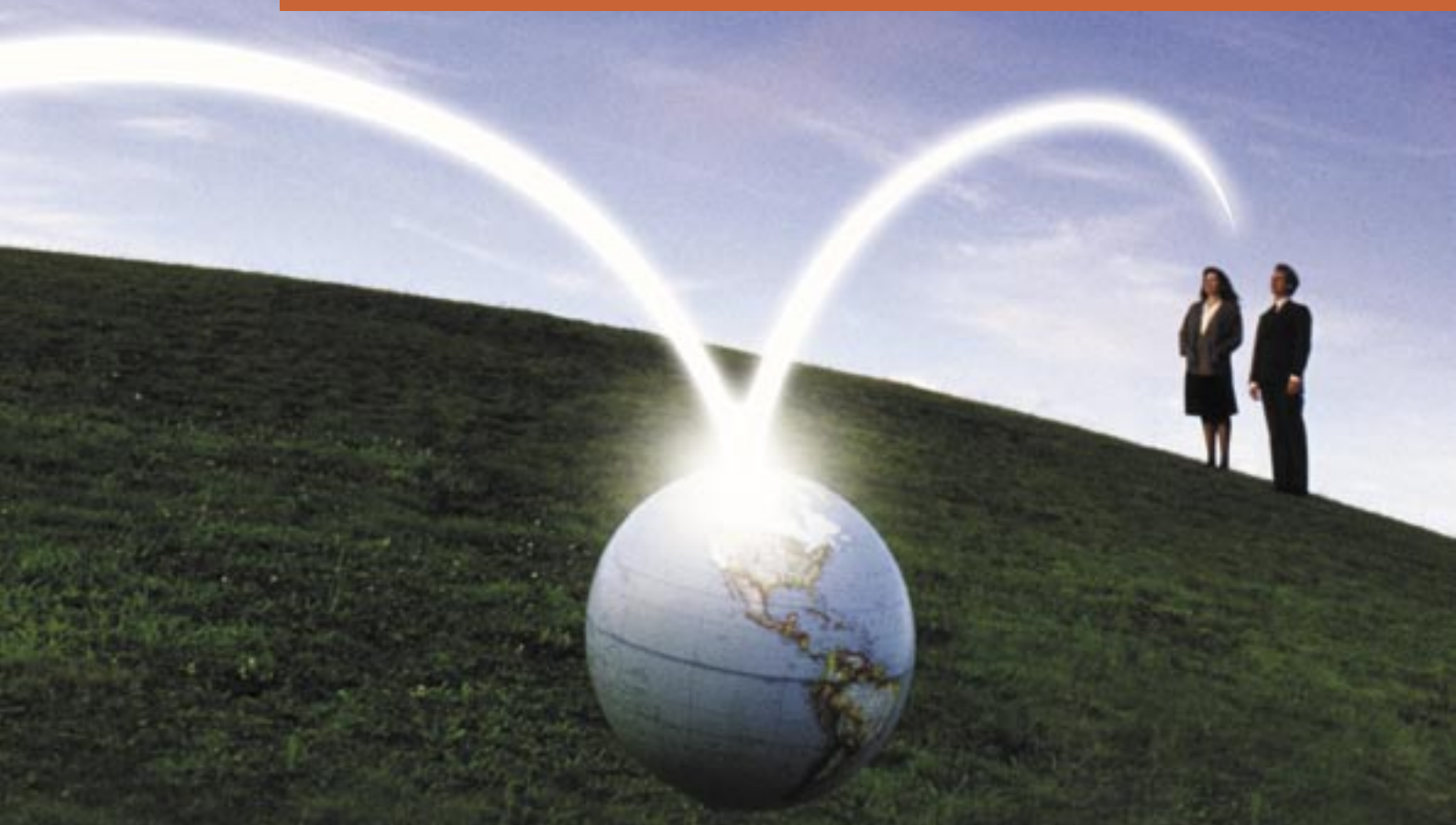
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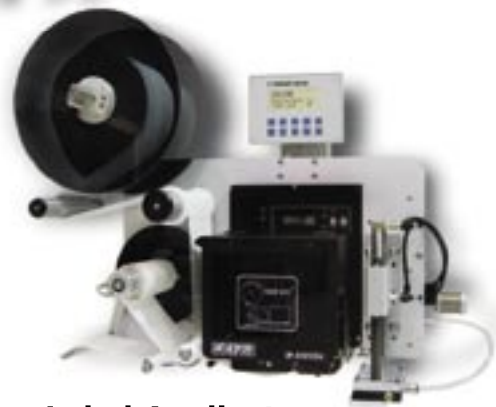
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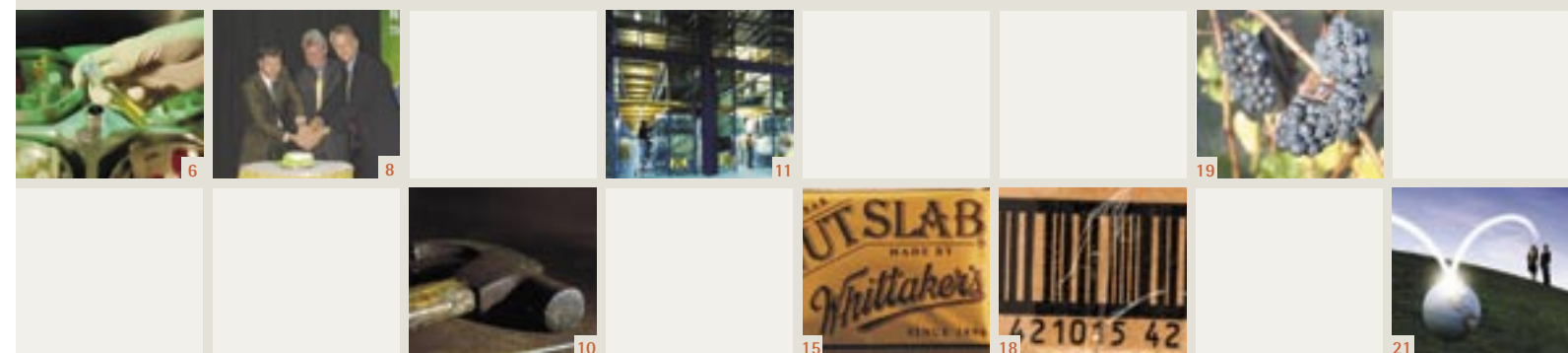
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SCAN magazine is produced quarterly for the benefit of GS1 New Zealand members. It has a circulation of approximately 5,500 readers throughout the country as well as 101 GS1 member organisations worldwide.

SCAN reaches decision-makers in a wide range of industry sectors including grocery, FMCG, healthcare, logistics, manufacturing, retailing, wholesaling and transport. Our readership includes chief executives, sales and marketing managers, account managers, brand and product managers, IT personnel, operations managers, production managers, logistics and supply chain personnel, bar coding staff and packaging coordinators.

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2005 Year of the Network

I've been involved in the technology game for 20 years, and only three times have I felt that I was witnessing the early stage arrival of a technology that was fundamentally disruptive and likely to change everything.

The first was when I was part of team rolling out multimedia technologies at Apple Computer in the early 90's. At the time, there was a "real men only do DOS" mentality and using graphical user interfaces on computers was regarded as WiMPY (Windows, Mouse, Pointing device). The concept of multimedia was denigrated in the press as an over-hyped "Zero Billion-Dollar Industry". Nonetheless, it was clear to some of us that the integration of sound, pictures, animations and video would forever change the face of computing for the better. And it did!

The second time was in 1995 when I was appointed to Victoria University as a lecturer in high-tech marketing, specialising in the Internet. At that time, only 200 companies in New Zealand even had Internet domains, and penetration of Internet technologies in this country was lower than 2%. Sceptics were saying that the "Internet is, and forever will be, irrelevant to business", but really it was becoming clear that the Internet would change the world. And it did!

The third time was late in 2003 when I was considering the opportunity to head the organisation that is now called GS1 New Zealand. Finding out about the Electronic Product Code™ (the EPC), I had an epiphany – this technology and its application would change the world. And it will!

All the indications are that 2005 will be a landmark year in the EPC journey. We will, I suspect, look back on this as the Year of the Network.

"Please explain," I can just hear you saying! Don't we already have networks everywhere? Why do we need any more?

During 2005 the largest standardisation effort ever undertaken by GS1 International and EPCglobal Inc. will finalise the EPCNetwork™. In previous issues of SCAN we have outlined the various components that make the EPC the next generation product identification technology.

On their own, EPC tags and readers offer significant advantages over traditional bar coding, including "hands free" and non-line-of-sight reading of item-level product identities at a very rapid rate (300 products per second). If it only had these capabilities, however, the EPC might be cast simply as a highly efficient bar coding technology.

Only by understanding fully what the EPCNetwork™ is and what it can offer businesses do you realise why the roll-out of the EPC will be such a landmark development. The EPCNetwork™ provides a unified, standardised architecture for the exchange of real-time information about products through the entire supply chain. Individually tagged products will be able to be scanned at multiple touch points along the supply chain.

All participants in the supply chain will be able to exchange business critical information for chain-of-custody, traceability, pedigree verification and supply/demand coordination using sophisticated services provided over the Internet. Gillette, one of the key funders and leaders in the adoption of the EPC, has emphasised that the technology offers them the prospect of "Perfect Retail" – visibility across the entire supply chain, enabling them to maximise on-shelf availability, identify counterfeit or stolen product and ensure that the customer can purchase their product when they want to. Now, that's the kind of fundamental change any of us will see only a few times in our working life.



Dr Peter Stevens
CHIEF EXECUTIVE



New Zealand

GS1 New Zealand celebrated the launch of its new brand name at well-attended gatherings in Wellington, Auckland and Christchurch during January.

The launch started with a cocktail function at Icon, Te Papa, on a fine Wellington summers' evening. John Albertson, Chief Executive of the New Zealand Retailers Association and Vice Chairman of GS1 New Zealand, was our master of ceremonies. Our guest speakers, who spoke in support of the work of the organisation over the last 26 years, included Alan Hesketh (General Manager Information Technology, Progressive Enterprises), Melissa Hodd (Executive Manager, Foodstuffs New Zealand) and Phil O'Reilly (Chief Executive, Business New Zealand).

In Auckland, we gathered for breakfast at Pinot in Remuera, where GS1 New Zealand Chairman Colin Robertson was our master of ceremonies. Tony Carter (Managing Director, Foodstuffs Auckland) and Alan Hesketh were guest speakers. In Christchurch, we held a breakfast at the historic Mona Vale homestead. Master of ceremonies duties were performed by Peter Stevens while the guest speakers were Steve Anderson (Chief Executive, Foodstuffs South Island) and, once again, Alan Hesketh.

Three cities in three days – a busy launch programme! These events were a great opportunity to hear about developments in the business of GS1.

Thank you to all our members who took the time to join GS1 New Zealand in celebrating the brand launch. (If you were unable to attend, we hope you still enjoyed the mints received with our invitation.)

Thank you also to Progressive Enterprises, Foodstuffs New Zealand and Business New Zealand for their generous sponsorship of the launch.

...launched!



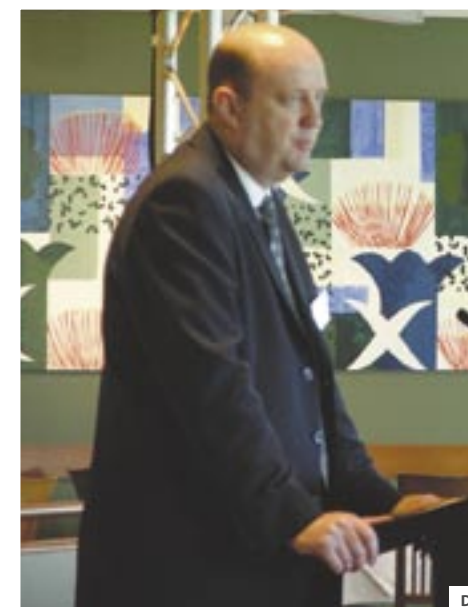
A Guests arriving before launch announcement.



B John Albertson, Chief Executive, NZ Retailers Association.



C Alan Hesketh, General Manager, Information Technology, Progressive Enterprises Ltd.



D Phil O'Reilly, Chief Executive, Business NZ.

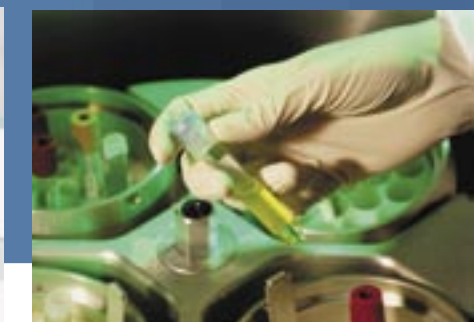


BY JUDIE FINESILVER

UK REPORT

New prescription for health care supply chains

Britain's National Health Service (NHS) is said to be the world's second largest organisation – only the Chinese army is bigger! The NHS has 1.3 million staff and handles some 500 million “healthcare episodes” each year. Information management on the products and equipment required is challenging to say the least.



Since 1997, the British Government has made improving the health of the nation a major priority. With this has come growing recognition that information systems are critical to increasing the efficiency and effectiveness of clinical and non-clinical activities. The Department of Health set up in 2003 the National Programme for IT (NPfIT) and tasked it with delivering an information infrastructure for the NHS costing £2.3 billion over a number of years.

The NHS Purchasing and Supply Agency (NHS PASA) is the Department of Health's executive agency with responsibility for managing the purchase and supply of a range of services, products and equipment consumed or used by the NHS in England. While working with different stakeholders and projects, the e-commerce team at NHS PASA began to envision a fully automated NHS, where all products and equipment would be uniquely identified by a code and their information would be captured, stored and transmitted automatically across supply chain links between hospital user and product manufacturer.

Diversity of codes

NHS PASA has studied the possibilities for automatic product and equipment identification. At the same time, various NHS stakeholders have initiated automatic identification and data capture (AIDC) projects that are not centrally coordinated by the Department of Health. We surveyed the use of code standards by NHS suppliers and found that the pharmaceutical industry was using the same code standard – EAN and AIDC – often in a sophisticated manner, but that non-pharmaceutical suppliers and users were highly fragmented in their choice of codes and use of AIDC.

For example, the survey found that the use of EAN13 codes on the medicine pack and use of AIDC technologies facilitated robotic units in hospital wards to dispense the correct medicine to the correct patient during the medicine administration round, and at the hospital pharmacy to dispense the correct medicine to the correct outpatient or ward. However, we also found that the use of a variety of codes in linear or two-dimensional format (or absence of codes) by suppliers in the medical devices industry meant that, for staff to be able to use AIDC technologies when replenishing stock at hospital wards, stock locations throughout the hospital had to be labelled with the hospital's own bespoke codes.

The survey confirmed that electronic trading offers the benefits of purchasing the correct product at the correct price. This is achieved by incorporating the product code within the purchase order message that is sent electronically from the hospital and acted upon automatically by the supplier.

Subsequent to the survey, NHS PASA reviewed both the code structure standards and the AIDC application models and it then recommended a course of action for suppliers and NHS hospitals. The recommendation was based initially on the acknowledgement that a national approach was required to ensure that the different stakeholders' initiatives succeeded and could be rolled out across England. NHS PASA also confirmed that no other government organisation was championing the cause for products in the NHS.

Recommendation

The NHS PASA has issued a position statement on bar coding which provides guidelines for companies and hospitals embarking on the journey to automatic identification*. The guidelines are not mandatory. Instead, they are intended to show direction of travel and good practice and to facilitate a single route through an otherwise very complex action map.

The position statement outlines five possible scenarios:

- 1 NHS PASA supports the voluntary use of bar codes for the unique identification of products sold to and used by the English NHS.
- 2 NHS PASA recommends that all products being supplied to the English NHS should be identified using a bar code, which should preferably be the EAN.UCC.
- 3 The only exclusion to this recommendation is for products already coded using the Health Industry Bar Code format (HIBC). Suppliers using the HIBC set of standards may continue to do so for the foreseeable future.
- 4 Suppliers using other bar code standards are strongly advised to migrate to EAN.UCC as soon as possible.
- 5 All suppliers planning to bar code their products are strongly advised to consider only the EAN.UCC set of standards.

Although the position statement refers to bar codes, NHS PASA is aware that bar codes are only one representation, or data carrier, of code structure. Other data carriers, supported by EAN.UCC, such as Reduced Space Symbol and

Data Matrix could be more appropriate to different business needs. For example, small containers such as ampoules, injections, eye drop bottles and surgical instruments would require a different type of data carrier to a pallet, carton cases, plastic wrap or larger size products or equipment.

NHS PASA has been working with the Department of Health and other executive agencies to provide a single perspective on code standards and AIDC application models. This perspective will hopefully be achieved during 2005 and will provide a key foundation stone for the National Programme for IT (NPfIT) as it builds the infrastructure required to facilitate the generation and sharing of electronic health information between different NHS organisations, managers and practitioners.

Judie Finesilver (MRPharms) is an e-procurement pharmacist with the NHS Purchasing and Supply Agency. Ms Finesilver will address the annual conference, GS1 World 2005. Connecting the Dots... the Future of Global Supply Chains (see page 21). Efi Rigopoulou, Research Manager, NHS Purchasing and Supply Agency, also contributed to this article.

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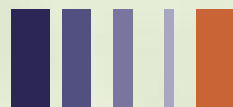
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* Available at www.pasa.nhs.uk/ecommerce/bar_coding/barcoding_position_statement



EPC/RFID: The way of the future

EPCglobal New Zealand™ was launched at our highly successful **EPC/RFID: The way of the future** conference, on 8-9 February. More than 150 people attended the conference – and they heard some stimulating and informative presentations from an impressive line-up of international and national speakers.

The first speaker was Dr Daniel Engels, Research Director, Auto-ID Labs of the Massachusetts Institute of Technology. Dr Engels was one of the principal architects of the Electronic Product Code™ (see article pp 11-13). His presentation covered the technical development of the EPC and expected future developments.

Through the course of the day conference attendees learnt about: The EPCglobal Network™ services from Ben Armstrong (Verisign Australia); business strategies for implementing the EPC from Ming Tang (Accenture); and case study experiences from Visy Industries (Peter Hood) and Amcor Fibre Packaging Australasia (Gerry Wind). Ian Robertson from Hewlett Packard (United States) gave a thoroughly entertaining and informative insight to the RFID programme inside HP.

The first day's proceedings ended with a panel discussion among the presenters, facilitated by Doug Casement (Editor, Computerworld). This produced some lively questions from the floor.

And it was only fitting to then celebrate the arrival of EPCglobal New Zealand with a party. After some interesting formalities (including a video from Chris Adcock, President, EPCglobal Network™), the party went on with the cutting of a celebratory cake.

Videoconference

Day Two started with a very apt display of modern communications technology – a video conference with Peter Jordan of Kraft Foods UK, who came into the conference from Birmingham. Peter's presentation was a case study on the transformational technology of the EPC and the experiences of Kraft, as that giant company moved to adopt the EPC. He provided a wealth of insights for conference attendees.

The same could be said for the speakers that followed – Mike Rose (Johnson & Johnson USA), Con Colovos (Moraitis, Australia), Professor James Rowe (Australian Sheep Industry CRC), Bruce Grant (Gillette & Alien Technology), Fiona Wilson (EAN Australia), Will Duckworth (IBM) and Victor Barczyk (Sato).



The conference concluded with a panel discussion on the privacy issues of EPC/RFID. The panel was comprised of Muir Hutchison (Pharmacy Guild of NZ), Blair Stewart (Office of the Privacy Commissioner), John Albertson (NZ Retailers Association) and Owen Dance (GS1 New Zealand). The group reported on the progress of the development of a Code of Practice for the use of EPC/RFID in New Zealand.

People leave any conference with different learnings and memories. But all who attended **EPC/RFID: The way of the future** will surely remember for some time the lively, comic input from Mark Hadlow as conference master of ceremonies. Mark started both days with an "exercise class" for everyone to the rhythmic beat of kitsch classics "In the Navy" and "YMCA". A good time was had by all!

To our sponsors –Thank you!

Much of the success of this conference was due to the support of sponsors and their contribution to containing the cost for attendees.

IBM was the platinum sponsor and Saito Labels was the Gold Sponsor. Walker Datavision and SAP were both Silver Sponsors. GS1 New Zealand expresses deep appreciation for the support of each of these sponsors. We say a special thanks also to: Edis International, a Premium Alliance Partner and Image Net, a Business Alliance Partner.



- A Peter Stevens, Nicholas Fergusson, Colin Robertson
- B Con Colovos Moraitis
- C Panel Discussion
- D Mark Hadlow
- E Exhibition Area



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Atrocious bar coding in hardware

A recent study undertaken by GS1 New Zealand in conjunction with five leading hardware retailers has revealed a potentially serious issue in the logistical operations of the hardware sector in this country.

The study found that 71% of products on the shelves in New Zealand hardware stores failed the internationally-accepted verification test for bar code quality. And an astonishing 7% of products could not be scanned at all on a sophisticated verification scanner.

GS1 New Zealand says these "atrocious" findings could have serious implications for supply chain efficiency, for response times as customers go through a store check-out and for stock control across the hardware sector.

The five retailers involved in the study and follow up actions are: Placemakers, Bunnings/Benchmark, Carters, ITM, Mitre 10. They met recently to discuss the findings and develop a plan for improving the quality of bar codes in their sector.

The five retailers agreed to a "carrot and stick" approach that will include education and the publication of industry guidelines, along with the threat of mandatory verification for bar coding, such as already exists in the grocery sector*. The five retailers will work together to improve bar code quality across all products. They agreed on initiatives including promotion of the survey results, supplier education, further research on actual scanning failures and increased involvement in GS1 activities.

The study involved the testing of bar codes on 956 randomly selected items – approximately 9% of all bar coded inventory items at the test location. The tested items were representative of those commonly ranged in hardware stores.

A full GS1 verification test was used and each bar code scanned with a precision instrument called a "verifier". This scans the printed symbol and also analyses the pattern of light reflected from it, so that the correctness of the bar

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code can be determined in terms of both physical structure and reflective properties.

Additional observations were made by an operator to ensure that each tested bar code was correct in terms of type, overall size, height and location on the product. The bar code number was also examined to ensure that it was an authorised and correctly structured number.

As a general principle of such testing, only a bar code that passes each part of the test is said to "Pass GS1 Verification". Only verified bar codes can be relied upon to scan every time a scanner is directed at them. Test failure does not automatically mean that a product will not scan at retail but it does indicate a sharply increased chance of this or of difficulty in scanning.

Note: For a full copy of the hardware sector report see: <http://www.gs1nz.org/aboutgs1/NZhardwarecansurveyresults.aspx>



EPC/RFID: Are you ready?



The Electronic Product Code™ and Radio Frequency Identification (EPC/RFID) are destined to be the "killer app" in supply chain investment over the next 10 years. GARY HARTLEY, GS1 New Zealand Manager for Strategic Initiatives, looks at developments likely to parallel the advent of the Internet in the scope and scale of changes that result within modern enterprises.

RFID technology has been used in a variety of ways for over 60 years. However, it is only in recent years that there has been a renaissance of sorts in its use and popularity. And while "RFID" may be most prominent in media headlines, it is really the Electronic Product Code™ (EPC) that is creating industry interest worldwide.

The EPC vision sees the unique identification of virtually anything to item level in an automatic, hands-free, anywhere/anytime fashion. The EPC tags contain radio antennae that transmit a wealth of data, such as product size, price, and quantity to "readers" that alert a company's enterprise software system to the item's whereabouts within the supply chain. The technology could spur efficiencies which were unthinkable just a few years ago. Advocates claim the benefits of EPC/RFID are substantial, including real-time product tracking, reduced shrinkage, fresher delivery of perishable goods, and increased accuracy in inventory control and management.

The EPCglobal Network™

Essentially the EPC is a "licence plate" attached to an item to uniquely identify it in the supply chain. The EPC sits on a tag comprised of a silicon chip and an antenna, which is attached to the item. Using RFID technology, an EPC tag "communicates" its number to an EPC reader. The EPC reader then passes the number to a computer or local application system running within the company concerned. This system is referred to as EPC Information Services (EPC IS).

EPC IS are a gateway to the EPCglobal Network™. They store tag "track and trace events" for future use and serve as a hub for information aggregation on any particular EPC. EPC IS send notification about tag events to so-called EPC Discovery Services which are located out on the Internet. These services give direction to any inquiries received about the location of information on a particular EPC.

Inside the EPC

The EPC is often seen as the next generation of product identification after bar codes. Although bar codes have limitations (they require line-of-sight for scanning, have limited encoding capacity, and cannot receive and store information), they are currently used by more than one

Just a bunch of lines and numbers? Think again!

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* GS1 New Zealand was formerly known as EAN New Zealand

*Verification tests have been mandatory in the grocery retail sector since 2001 and a "pass" is normally required before any product is considered fit for sale in Australia or New Zealand supermarkets. Studies in 1991 estimated that "bad" bar codes to New Zealand's grocery sector at that time meant customers having to spend an additional 163,000 hours in supermarket queues annually.

million firms in more than 140 countries across more than 23 industry sectors, and clearly remain important to supply chain operations. Bar codes and EPC's will co-exist for many years to come.

The EPC is built around a basic hierarchical idea that can be used to express a wide variety of different, existing numbering systems. EPC numbers can accommodate all existing EAN.UCC keys, including Global Trade Identification Number (GTIN), Serial Shipping Container Code (SSCC), GLN (Global Location Number), Global Returnable Asset Identifier (GRAI), and Global Individual Asset Identifier (GIAI). Like many current numbering schemes used in commerce, the EPC is divided into numbers that identify the manufacturer and product type. The EPC uses an extra set of digits, a serial number, to identify individual items.

access to this information will revolutionise supply chain planning and logistics. From the interest now being shown in the retail and consumer products industries, we can expect that aftermarket service, support and resupply will move to RFID as the most effective technology for managing these activities. Compliance mandates – for example, Walmart requiring suppliers to place EPC tags on their products – will, over time, force the rapid deployment of EPC/RFID into other consumer-oriented manufacturing like pharmaceutical, food and electronics and also into after-market service in the automotive industry.

Applications of RFID, however, extend far beyond the world of consumer goods. The technology is bolstering port security and changing military logistics. A number of airlines plan to use EPC/RFID tags to track luggage and cargo. Aiming to curb prescription drug counterfeiting, the US Food and Drug Administration is actively investigating EPC/RFID technology in

billion in packaged goods per year, also set a January 2005 deadline for its suppliers to begin using EPC/RFID. Several major European retailers have issued their own mandates including France's Carrefour, the world's second largest retailer, Britain's Tesco, and Germany's Metro Group. The latter has done in-store tests since 2003 with individual items tagged (not just pallets and cartons). In Australia, the Coles supermarket chain is doing trials for its first use of EPC/RFID.

New Zealand is a country at each end of international supply chains. Companies here tend to expect developments in our part of the world to follow developments in the US and Europe. However some have taken a lead in joining EPCglobal New Zealand* as "end user" members and they are looking for the early adopter advantage that the network provides.

For the current vendors of Wal-Mart disembarking at Northwest Arkansas Regional Airport, musing on the question, "Are you ready?" (prominent on a nearby billboard) should be more than just a way to pass the time until their luggage arrives. It may take a few years to realise its full potential, but ready or not, EPC/RFID is here now.

* EPCglobal Inc is the not-for-profit organisation entrusted by industry to establish global standards for the development, implementation and adoption of EPC-RFID, and to support the EPCglobal Network™. EPCglobal New Zealand is part of GS1 New Zealand.



Combine the EPC with the Internet and the "killer app" for supply chains is created – the ability to track and trace tagged items anywhere and anytime.

Each EPC number contains:

- a Header, which identifies the length, type, structure, version and generation of the EPC Manager Number;
- an EPC Manager Number, which identifies the company or company entity;
- an Object Class, which is similar to a stock keeping unit or SKU; and
- a Serial Number, which is the specific instance of the Object Class being tagged.

Additional fields may also be used as part of the EPC in order to properly encode and decode information from different numbering systems into their native (human-readable) forms. EPC Manager numbers issued by EPCglobal Inc* are required if companies are to engage with trading partners outside their internal operations. To interact with the EPCglobal Network™, you also must have properly allocated EPC Manager Numbers. You are eligible for these when becoming an EPCglobal Subscriber.

Widespread application

EPC/RFID will provide for the immediate polling of inventory, and support real-time monitoring and management of any item in the supply chain. Real-time

an effort to create a more secure system for verifying that drugs are manufactured and distributed under controlled conditions.

At the moment, however, it is primarily retailers who are driving innovations in EPC/RFID. Despite promising prospects, the technology presents a number of challenges to companies across the global supply chain. Issues such as when and how much to invest and evolving standards will need to be resolved before EPC/RFID can begin to fulfil its potential. As with any new and "disruptive" technology, the introduction will not be smooth everywhere. Nonetheless, it seems certain that within a few years EPC will become ubiquitous.

First rollout well underway

Wal-Mart has long been a pioneer in both retailing and supply-chain efficiency – and this is definitely the case with EPC/RFID. The company, which buys US\$198 billion in goods from packaged product suppliers annually, is driving widespread implementation of EPC, having required its top 100 suppliers to start tagging items from January 2005. Deployment plans with 200 more suppliers are now under discussion. Wal-Mart expects to be using EPC/RFID in as many as 13 distribution centres, and 600 Wal-Mart and Sam's Club stores in the US by October 2005.

Other major buying organisations are on the same path. The US Department of Defense, with demand for US\$20

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Staff Profiles

Vijay Todkar

Vijay Todkar has recently joined GS1 New Zealand as Auckland-based Territory Manager. He has more than 10 years' experience in sales and business consultancy roles.



Vijay has a Bachelor of Engineering in Instrumentation and a Masters degree in Marketing. His past roles have included close involvement with developing and implementing the concept of a "lender's engineer" – a form of consultancy service to financial institutions as they look at investing in complex projects. The service provides the lender with detailed technical review of engineering drawings, equipment specifications and project management.

Prior to joining GS1 New Zealand, Vijay was an account manager with an Australasian company that specialises in the design, development and implementation of software and hardware systems in the food industry. These systems include technology for the automatic printing and application of bar code labels.

Vijay is committed to understanding the needs of his customers and to recommending the best solutions for each. As a GS1 New Zealand Territory Manager, he assists current and new members in the region north of Taupo with their bar coding, traceability and EPC/RFID requirements.

In his spare time, Vijay is a keen fisherman. He and wife Sabrina have just become first-time parents with the birth of their baby daughter Taara.

Chris Prangnell

Chris Prangnell has recently joined GS1 New Zealand as a Technical Sales Consultant to members north of Taupo. Chris has a background in industrial engineering, which is concerned with the business systems of industrial companies from a time management and efficiency point of view. His early roles included being a critical path analyst/planner for the British Hovercraft Corporation.



After completing a Diploma in Business and Industrial Administration at the University of Auckland, Chris worked with ERP and MRP information systems in major manufacturing companies, including Philips New Zealand, Donaghy Industries and AFFCO. He subsequently became a manufacturing business consultant for GEAC Computers.

Chris is very interested in the application of new technologies in the day-to-day operation of business systems. At GS1 New Zealand, he enjoys being able to work out the particular technical requirements of members and to help deliver solutions that enhance their business performance.

Chris and his partner, Helga, live in the west of Auckland and enjoy walking in the Waitakere Ranges when family commitments to five children and four grandchildren allow.



JH Whittaker EANnet Ready™

JH Whittaker and Sons Ltd was declared EANnet Ready™ on 23 December 2004. This is the first step in the company's use of EANnet with Coles and Woolworths supermarkets (in Australia), in place of the Universal Buying Forms (UBF).

To become EANnet Ready™, Whittaker's worked with Brian Jones from Kinetic Business Solutions. Mr Jones said a critical step in the process was ensuring the accuracy of product data prior to it being uploaded to EANnet. To move from EANnet Ready to "live" status, Whittaker's would also find communication with trade partners was very important, Mr Jones said. This is the point at which Whittaker's data is synchronised with partners' data.

Whittaker's has loaded data relating to all the products that it currently supplies to Coles and Woolworths, and it is maintaining this data by use of the batch file template with the browser upload service.

Mr Jones said: "The key benefit is that the retail partner sees data exactly the same as you see it – a common and understood language between both companies. The benefits, however, can only be secured providing the processes are in place internally to maintain the data integrity and accuracy after implementation is achieved."

In preparation for implementation of EANnet by Foodstuffs companies, Whittaker's will now look to prepare the data for additional products that

it supplies to those companies. For Foodstuffs, Whittaker's will add pricing data on items that are already loaded into EANnet.

Foodstuffs EANnet Update

Foodstuffs has decided that some of its EANnet data will also be used in the Foodstuffs Exchange.

The data requirements for synchronising with Foodstuffs will soon be available from www.gs1nz.org/eannet. They will be based upon the UBF form and will also include some packaging attributes – a demonstration of Foodstuffs' commitment to the NZ Packaging Accord (For more on the Packaging Accord: www.packaging.org.nz).

It is now anticipated that the initial data synchronisation with pilot suppliers will commence in September 2005. Following this, Foodstuffs will undertake a phased rollout to other suppliers.

User Statistics

GS1 New Zealand has now registered 26 companies to use EANnet. For a full up to date list of users, see www.gs1nz.org/eannet/users.aspx



EANnet Seminars

GS1 New Zealand will run a series of EANnet seminars in Christchurch (4 April), Auckland (6 April) and Wellington (7 April). These seminars will provide an introduction to data synchronisation and detail how EANnet works, while also explaining the importance of EANnet to the New Zealand grocery industry and how suppliers can get started. See www.gs1nz.org for more information.

Data synchronisation in other countries

Around the world there are a number of 'data pools' providing data synchronisation services. In New Zealand and Australia we have EANnet. Other countries that have operating data pools include the US (UCCnet, Transora, WWRE), Canada (ECCnet), France (EANnet.FR), Germany (Sinfos), and Colombia (CABASnet).

It is desirable for these data pools to be able to "speak" to each other so that a retailer can receive data from a supplier who uses a different pool. For this to work a supplier must populate their item data into their local data pool and choose to register this item on the GS1 Global Registry™ (which contains basic item details and a pointer to the data pool which contains the full item record). A retailer is then able to find the item in the GS1 Global Registry™ and subscribe to receive the data from the local data pool.

This process is known as Global Data Synchronisation. A new not-for-profit organisation called GDSN Inc. is responsible for the Global Data Synchronisation Network. GDSN Inc is 100% owned by GS1.

To enable data pools to be able to 'speak' to each other, the data pools must go through a certification process. So far, 10 data pools have successfully completed the GDSN Interoperability Certification along with the GS1 Global Registry. Certification will be sought for EANnet in the future, enabling it to be part of the GDSN.

FOR MORE INFORMATION



Contact Robert Turner, GS1 New Zealand Technical Consultant for advice on EANnet on 04 494 1066 or robert.turner@gs1nz.org



Fresh lettuce salad to go

Living Foods NZ has a fast-moving consumer product – really fast. The Auckland company makes up fresh salads for sale in supermarkets throughout New Zealand. And let's face it, no-one has much appetite for a fresh salad that isn't fresh.

Delivery times and processes are obviously critical. So when its principal supermarket retailer asked that the product be routed through a distribution centre, Living Foods NZ was eager to ensure this would be done with minimum extra risk of salads spoiling before they reach consumers. Until then, delivery had been direct from the company's packing room to stores.

In line with standard practice, the retailer's distribution centre requires product identification and relevant data to be clearly stated on each carton received from suppliers. Bar coding is the preferred method for providing this information accurately, efficiently and economically. And the retailer specifies EAN128 bar code labels for all cartons, so that products can be quickly identified and their use-by-dates captured with a single scan. The date feature is particularly important to the distribution centre's "first in, first out" approach to picking cartons for dispatch out to the stores.

Living Foods NZ previously had no bar coding on its cartons and no facility to print bar codes or to apply labels. Company manager Natasha Clarke needed to rapidly introduce EAN128 labelling. She had limited knowledge of the hardware and software that would be needed but was extremely clear on the special requirements of her business.

"Our success is built on a fundamental commitment to product freshness," says Ms Clarke. "We aim to put our salads onto the consumer's plate 24 hours after the lettuce is picked in our market garden, or even faster if we can. To achieve this, our cartons need to go into the distribution centre with bar coding that identifies the contents with absolute clarity, and that facilitates speed and efficiency in stock rotation."

She called in Raman Chhima of GS1 New Zealand's professional services group. Raman and the GS1 team in Auckland examined Living Foods NZ's existing practices and scoped out all the elements that would be needed for efficient delivery of products into the distribution centre, and beyond to consumers. They did a written proposal, describing the stages for implementation of a bar coding solution and each piece of work to be done. The proposal included the selection of hardware and software, as well as a description of the information that would have to be captured in bar codes.

Once the business issues and the particular requirements for bar coding were understood, Living Foods NZ was able to quickly adapt its existing hardware and software applications to start producing bar codes with exactly the information required. Tests were done on finished labels to check for compliance with EAN.UCC standards. This proved the company's new system and the green light was given to start labelling the cartons of freshly packed salads.

While working with Ms Clarke on the carton labelling, GS1 New Zealand recognised the benefits to her company of using Serial Shipping Container Codes (SSCC). Introduction of SSCC may follow in future, after confirmation that Living Foods NZ and the supermarket retailer are achieving the efficiencies intended through the new bar coding-supported distribution processes.

Overall, Living Foods NZ achieved a smooth and trouble free migration in its supply arrangements with the retailer. "Initially the task was quite daunting for me as I had no idea what information a bar code could hold and how the process worked," says Ms Clarke. "Raman and the GS1 team put me at ease by explaining the process in great detail. I now look at bar codes in an entirely different light and am very happy with the results."

Mr Chhima says the EAN.UCC system could be readily applied to the requirements of a fast-moving fresh salad business.



FOR MORE INFORMATION

Contact Raman Chhima, GS1 New Zealand Technical Consultant for advice on how our professional services can be of assistance to your business requirements on 04 494 1065 or raman.chhima@gs1nz.org



IBM's Secrets for success with RFID: beyond the tag and scanner

2004 saw a lot of talk and consumer concern about the use of Radio Frequency Identification (RFID). IBM predicts that 2005 will be a year of "hype-backlash" as companies realise the substantial benefits from improved supply chain performance are not just hype but reality. New Zealand Wireless Practice Leader for IBM **Brent Menzies** explains why the secrets for success with RFID lie beyond the tag and scanner.

There is no doubt that RFID is a powerful enabling technology that can add serious value to business. RFID has been suggested as a solution for companies looking to create a robust reliable supply chain, eliminate wasted produce, reduce theft, and to create total visibility of product from origin to destination.

However, this value does not happen simply by adding tags to crates and products. A clear business case must be formed, coupled with the commitment to business and organisational change.

The business case needs to support the current price of tags, infrastructure and data integration services. It should also consider how RFID can be used at all levels of a business with partners and customers.

Several of the companies IBM is working with globally have moved well beyond the business case scenario and are in the process of extending their pilots out to the broader enterprise. These include Germany's METRO, the world's fourth largest retailer and the first to adopt RFID across its entire supply chain, and Australian fresh produce giant Moraitis, which is using RFID to provide accurate data on the quality, size, type and origin of the four tonnes of tomatoes that leave its premises daily (that's 18 million tomatoes annually).

Both of these companies are now seeing the return on their RFID investment. Moraitis, for example, is realising true operational savings through reduced wastage, and lower inventory and handling costs. With RFID, Moraitis has real-time inventory, accurate grower statistics, fresher produce and the potential to trace an individual tomato from vine to shop shelf. This information allows Moraitis to make informed business decisions to better serve their customers, including retail giants such as Woolworth's and Coles Myer.

The uptake of RFID has been enormous. This growth is predicted to span beyond the retail and manufacturing sectors to include broader applications within the electronics, apparel, pharmaceuticals, FMCG, logistics, automotive and chemical/petroleum industries.

This year we will also see a global trend towards growth in connected RFID solutions operating within a business – as well as externally via networks that will allow retailers, manufacturers, and distributors to collaborate and share the benefits; retailers will have visibility of their orders from point of manufacture whilst manufacturers will have inventory visibility, supporting effective demand planning.



In New Zealand, RFID is just getting off the ground. 2005 will see a lot of the hype dissipate as the business benefits and return on investment are realized by RFID adopters. The more that New Zealand companies hear about the success others are having with RFID, the more they start to think about the development of a business case to support adoption in their own company.

Globally, the benefits and return on investment will continue to materialise and this will incite adoption even further. There is no doubt that 2005 will be an exciting year of growth and opportunity for businesses working with RFID.

AMR Research recently issued a report in response to a demo of IBM's end-to-end approach to RFID. The report stated: "...IBM is making a clear statement that it can not only provide support of retail mandate-related RFID, but can span the whole supply network... This attempt by IBM to awaken supply chain managers to the opportunities of this technology should be applauded, even by its competitors." AMR Research also recognised IBM as the leading RFID service provider in seven out of eight categories in their May 2004 report: "RFID in Consumer Products: Which Service Providers Have the Goods?"



Mix'n match bar codes do not work!

At GS1 New Zealand, we sometimes encounter bar coding mistakes that must have been hard to create – certainly harder than simply printing a correct bar code in the first place!

In one recent example, we tested what looked like an ITF-14 bar code but with an EAN-13 number printed beneath (*Example A*). This is an impossible combination in the bar coding world, since ITF-14 can only handle numbers with an even number of digits. Our Verification Team looked further and what they found was a first – a slice of EAN-13 bar code printed to ITF-14 dimensions and surrounded by a bearer bar that made it all look like the real thing.

Example A*



While the dimensions would have been correct for an ITF-14 symbol, they were well off the mark for EAN-13. In the context of specified dimensions for the latter, the printing of this symbol was much larger than the maximum allowable size. To make matters worse, the print quality was at best mediocre – and then a wrinkled strip of transparent tape lay across the centre of the whole bar code, obscuring it so badly that even if it had been correct, it could not have been properly read.

In another amazing case, we found that a strange-looking bar code that had been used for an EAN-13 number was, in fact, Code 128 (*Example B*). It was not even EAN-128 – this would have at least kept the mistake within the same bar code family! The example even included hyphens printed between the human-readable digits below the bar code, which were encoded in the bars. A scanner or database would not understand these hyphens. Correctly printed human-readable digits for an EAN-13 bar code would show a space after the first number and the seventh number.

Example B*



Would this example of mix-and-match bar coding have scanned? Maybe...in a store that had scanners enabled for a non-EAN bar code but a database designed to accommodate EAN numbers. To the best of our knowledge, no such combination exists!

In reporting these shocking discoveries by the GS1 New Zealand Verification Team, we mean no disrespect to the members concerned. The bottom line is that members can suffer expense and delay through mistakes like this, and their trading partners can also be disadvantaged.

Much as bar coding oddities might enliven an otherwise dull day in the testing room, we advise members to double-check when they have bar codes printed that the printer-supplier is familiar with GS1 and the General Specifications. If not, we can advise members to contact GS1 New Zealand or request their suppliers seek help from any GS1 office worldwide.

Do not forget that GS1 New Zealand has a free-calling technical support line (0800 102 356) and every year members are entitled to 10 free verifications. A good idea might be to have art work checked before your product is made. We also recommend the use of printers who are GS1 accredited and who have staff trained in the delivery of bar codes that will be right every time.



EANnet with InSynch

- ▶ Do you want to be able to maintain product and pricing data quickly and easily (in a spreadsheet format) that will ensure you can load it up into EANnet first time?
- ▶ Do you want to integrate your current stock and pricing file or system with EANnet and not have to re-key data?
- ▶ Do you want your data validated before it is sent for uploading into EANnet? Not only with valid data in each field but also with business rules applied for the product category and vendor rules!
- ▶ Do you want a solution that is already in use in Australia linking to the same EANnet system as you will be using?
- ▶ Do you need assistance downloading EANnet data into your ERP, warehousing or Point-Of-Sale systems?

If you answered YES to any of these question please call or contact Omega Financial Solutions for an InSynch brochure to learn more about the easy way to get your data loaded into EANnet with the least possible hassle.

At Omega we also believe that easy means cost effective.

Give us a call on: (04) 473-6515 or email us at InSynch@ofs.co.nz to ask for an InSynch brochure.

Traceability: Taking the first steps on implementation

PETER STEVENS continues to explore the future of traceability systems. In the previous issue of SCAN, he outlined the various drivers that are encouraging, even forcing, exporters to put traceability in place. In this article, Dr Stevens discusses the implementation process for any company.

Regulations such as the European Regulation 178/2002 and the US Biosecurity Act are having a considerable impact on exporters worldwide. In New Zealand, it appears that some approached the 1 January 2005 178/2002 deadline with high – and often ill-founded – confidence that their existing traceability systems were adequate to meet the new regulations.

Some exporters are finding that what they thought was adequate does not meet the new regulations. In the past you may have been able to define traceability as the ability to know where a product comes from when asked. In GS1 New Zealand's experience, this sort of traceability has often been implemented with internal coding or proprietary systems/identifiers. However, major issues arise if products are moved into other supply chains, especially where 178/2002 or similar regulations apply. Traceability information must now be shared with more parties in the chain (so-called "link" or "one-up-one-down" traceability). The more comprehensive forms of traceability are almost impossible to do with proprietary coding or messaging systems. Suddenly, producers and others find that universal standards must be used.

Enter the GS1 (or EAN.UCC) System! It is almost impossible to find another system that is standards-based, ubiquitous and multi-sector. The GS1 System offers standards-based identifiers, standards-based message structures, and standards-based sectoral implementation guides.

Is traceability just about compliance?

As explained in the previous article (SCAN, Issue 11, page 10) there are four essential ingredients for any traceability system to work properly: accurate & timely record keeping; batch composition; links between successive trade & logistics unit

configurations; and electronic communication of traceability data.

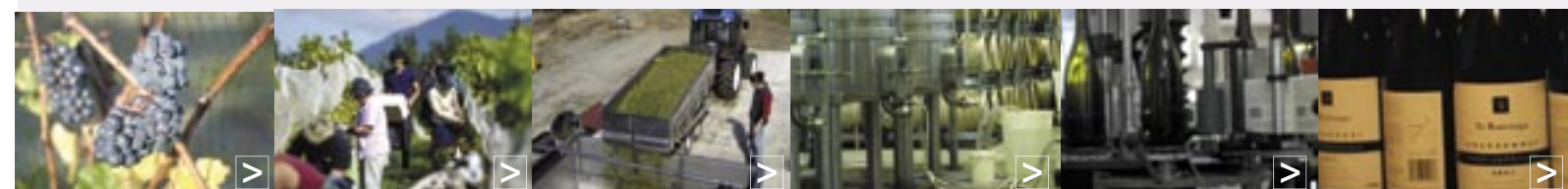
In our opinion, implementing a traceability system is much like applying a bar code on a consumer product because the retailer requires it. You can just treat it as a compliance issue or you can take a requirement and make it really work for your business. Traceability systems can be used to add value in many ways for example:¹

- ensuring a fast product withdrawal or recall, thus protecting the consumer;
- minimising the impact of such a product recall, by limiting the scope of product implicated and providing traceability tools;
- enabling companies to demonstrate that their product is not implicated in a given product recall, by ensuring proper segregation and clear identification of product;
- addressing concerns of food-terrorism or tampering of the food supply chain;
- strengthening consumer confidence, through the industry's ability to promptly identify and recall potentially unsafe product;
- providing internal logistical and quality related information, improving efficiency;
- providing reliable information for purposes including:
 - business-to-business
 - business to consumer
 - business-to-government inspectors
 - business-to-financial or technical auditors
- establishing the responsibility and liability for a certain problem; and
- facilitating protection of a company and/or brand name.

Where does traceability implementation start?

The first point is that companies should not rush the implementation of their particular traceability system. Careful planning is needed, with recognition that systems often require up-front investments and involve cross-functional teams within the business. There are some common steps to be taken.

Batch composition: A first critical step is to define the batch, or the unit of traceability. Batch definition is the key to making traceability work. Batch sizes can be identified on production or run time, on volume or on expiry dates. If the batch is too small, your costs will go up with little benefit. If the batch is too large, your risk will rise and the power of your traceability system will decline.



*NOTE: The circles "●" on the bar codes are meant only to protect the suppliers' identity and are not part of the defect.

¹ The author acknowledges the assistance of two valuable sources in writing this article: *Implementing Traceability in the Food Supply Chain* (The Food Business Forum; 2004), and *ECR- Using Traceability in the Supply Chain* to meet Consumer Safety Expectations (Efficient Consumer Response Europe; 2004)



The best approach is often to begin by defining a “batch” in terms of the smallest possible option. Under this approach, you would separately identify traceability information on individual items, short run times or whatever unit is appropriate in your business. At one extreme, you would define a batch as a single item. This might be viable for some very high value products: For most types of product, it would lead you into “busy fool” territory!

At the other extreme would be a wine producer who defines their whole year’s vintage as one batch. The traceability information would be useless for many business requirements (for example, a problem with some bottles of the wine could not be limited to a batch other than the whole year’s production – vintage wipe-out is the costly but logical outcome!). It is a balancing act. Select a batch type and size that is consistent with the nature of the product and/or the production process, and is supported by commercial logic.

Information exchange: The next step is to work out what information needs to be exchanged with trading partners. When approaching this step, many producers find that there is a large difference between:

- information that a trading partner would like to have displayed directly on the product; and
- information that they are prepared to have associated with the product (e.g. information supplied electronically or on paper as part of the manifest associated with the product).

The task is to separate one class of information from the other. Just ask your customers, right? This sounds an appealing approach (very customer-focused etc) but it could also become a “can of worms”. You will quickly find that each customer has different ideas about what is ‘mandatory’ information and what is optional. There is a significant risk of adding unnecessary complication to your labelling, packaging and message exchange. Suddenly you might have a product in your warehouse custom labelled for one customer that is unable to be directed to another customer without the time and expense of re-labelling, even when using the GS1 System and standard identifiers.

What use are Sector-specific Implementation Guides?

Some sectors already have templates that short-circuit the key decisions required in the implementation of traceability, including decisions on:

- batch definition;
- definition of application identifiers (AIs) to be used in building an

EAN-128 bar code, and;

- information to be placed on a pallet tag along with the Serial Shipping Container Code (SSCC).

These guides (already available for many produce sectors including fish, beef, fresh produce, wine, bananas) have been developed through a full consensus-building process by international experts. They offer a way to take the hard work out of traceability and provide a great method for producers to standardise their labelling and information exchange by pointing their trading partners to their compliance with international traceability guidelines.

Note: New Zealand has been asked to project manage the international lamb meat traceability guidelines – if you are interested in helping set the guidelines, please email peter.stevens@gs1nz.org or owen.dance@gs1nz.org

What about data and data carriers?

Once key decisions have been made, the GS1 System (EAN.UCC) really comes into it’s own and the various standards all work together to provide the technical basis for data exchange in the following way:

TRACEABILITY PRINCIPLES	ENABLING TECHNOLOGIES	GS1 / EAN.UCC SYSTEM TOOLS
Unique ID	Automated ID	GTIN, SSCC, GLN, Application Identifiers
Data capture and recording	Automated Data Capture	EAN/UPC, UCC/EAN-128
Links management	Electronic Data Processing	Software Applications
Data Communication	Electronic Data Interchange	EANCOM / XML

A key thing to remember is the distinction between data and a data carrier. The data is the important thing, whether carried in a bar code, an XML file or an EPC/RFID tag. Do not think that just tagging everything with an EPC/RFID tag will sort traceability. This might make your system easier to operate, but a traceability system still needs to be specifically defined.

In the next issue of SCAN, Dr Stevens will “unpack” the table above and discuss a working example. In the interim if you are interested in the traceability guidelines, please email peter.stevens@gs1nz.org or pick them off the website www.gs1.org.



Annual Conference & Seminars



GS1 World 2005 Conference. Connecting the Dots ... The Future of Global Supply Chains

Registrations are open for GS1 New Zealand’s annual conference – **GS1 World 2005. Connecting the Dots ... The Future of Global Supply Chains.**

This important event, on 25-27 May, will provide an excellent overview of trends and likely future developments in standards-based supply chain management.

The conference programme includes international and national speakers from academia and diverse industries: health, grocery, hardware, management, defence and information technology. It also includes presentations on technical developments and case studies, and workshops on data synchronisation and traceability.

The conference will be held at the Royal Lakeside Novotel, Rotorua, two hours’ drive from Auckland and well serviced by air. This will be an event well worth the trip!

REGISTER NOW

Please see the brochure inserted into this edition of SCAN and the order form on the next page or visit www.gs1nz.org



EANnet Foundation Seminars

These seminars are especially for people who have responsibility for their organisation’s vendor/supplier relationships, category management, database management or IT administration.

The seminars will be led by Rob Turner, GS1 New Zealand’s EANnet Consultant and a key member of the Foodstuffs EANnet Project Team. Rob has assisted EANnet implementation projects in various companies.

Christchurch, The Heritage Hotel, Monday 4 April

Auckland, AUT Conference Centre, Wednesday 6 April

Wellington, GS1 Office, Thursday 7 April

Seminar topics:

Principals of data synchronisation | Overview of EANnet | Costs and benefits of implementation | Foodstuffs timeframes | Online demonstration | Industry status | Key concepts | Implementing EANnet.

REGISTER NOW – Visit www.gs1nz.org



Warehouse Logistics and Inventory Control Seminars

Efficient consumer response and product availability are essential for high quality customer service. When customers walk into a store, they expect the product they want to be there. To meet this expectation, continuous planning, storing and moving of products is essential, along with accurate, timely accounting.

These seminars will offer simple and practical advice for inventory and warehouse efficiencies in organisations of any size.

Seminar details:

Auckland, AUT Conference Centre, Monday 18 April

Christchurch, Heritage Hotel, Wednesday 20 April

Wellington, GS1 Office, Thursday 21 April

FOR MORE INFORMATION



Contact **Vikki James**, GS1 New Zealand Education and Sponsorship Manager for advice on the Conference or Seminars on 04 494 1067 or vikki.james@gs1nz.org (Information and registration also on www.gs1nz.org).



NOTE: Traceability Seminar

Due to the unavailability of key speakers from Europe, this event was cancelled. However, please note that Traceability is a key component of **GS1 World 2005. Connecting the Dots... The Future of Global Supply Chains.** See the conference brochure.

HOW TO REGISTER:

By completing the order form overleaf and either faxing back to us on 04 494 1051 or by mailing to GS1 New Zealand, PO Box 11 110, Wellington.

Annual Conference & Seminars

EVENT	LOCATION	DATE	MEMBER PRICE	NON MEMBER PRICE	SUBTOTAL
Warehouse Logistics & Inventory Control	Auckland	18 April 2005	\$250 + GST	\$350 + GST	
Warehouse Logistics & Inventory Control	Christchurch	20 April 2005	\$250 + GST	\$350 + GST	
Warehouse Logistics & Inventory Control	Wellington	21 April 2005	\$250 + GST	\$350 + GST	
Bar Code Foundation Course	Christchurch	2 May 2005	First Attendee \$199 + GST Additional Attendee \$99 + GST	First Attendee \$299 + GST Additional Attendee \$150 + GST	
Bar Code Foundation Course	Auckland	4 May 2005	First Attendee \$199 + GST Additional Attendee \$99 + GST	First Attendee \$299 + GST Additional Attendee \$150 + GST	
Bar Code Foundation Course	Wellington	5 May 2005	First Attendee \$199 + GST Additional Attendee \$99 + GST	First Attendee \$299 + GST Additional Attendee \$150 + GST	
Annual Conference GS1 World 05. Connecting the Dots... The Future of Global Supply Chains	Rotorua	25-27 May 2005	Early Bird <i>(register before 29 April)</i> GS1 member \$650 + GST Four or more attendees \$550 + GST each After 29 April GS1 member \$750 + GST Four or more attendees \$650 + GST each	Early Bird <i>(register before 29 April)</i> Non-member \$750 + GST Four or more attendees \$650 + GST each After 29 April GS1 non member \$850 + GST Four or more attendees \$750 + GST each	
SUB TOTAL					
GST					
TOTAL					

GS1 New Zealand reserves the right to cancel or transfer the date, or change the venue of the seminar or conference.

COMPANY DETAILS COMPANY NAME: _____ GS1 NEW ZEALAND ACCOUNT NUMBER: _____ PHONE NUMBER: _____ FAX NUMBER: _____ POSTAL ADDRESS: _____ _____ _____ COMPANY EMAIL ADDRESS _____ <i>Refunds will not be given if your participation is cancelled less than 7 days prior to the commencement date of your seminar.</i>	PAYMENT INSTRUCTIONS <i>(tick appropriate)</i> <input type="radio"/> My/our registration cheque for \$_____ is enclosed <input type="radio"/> Please invoice me for \$_____ quoting purchase order number _____ <input type="radio"/> Please charge my <input type="radio"/> Visa <input type="radio"/> Mastercard for \$_____ Expiry ____ / ____ <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> Signature _____										
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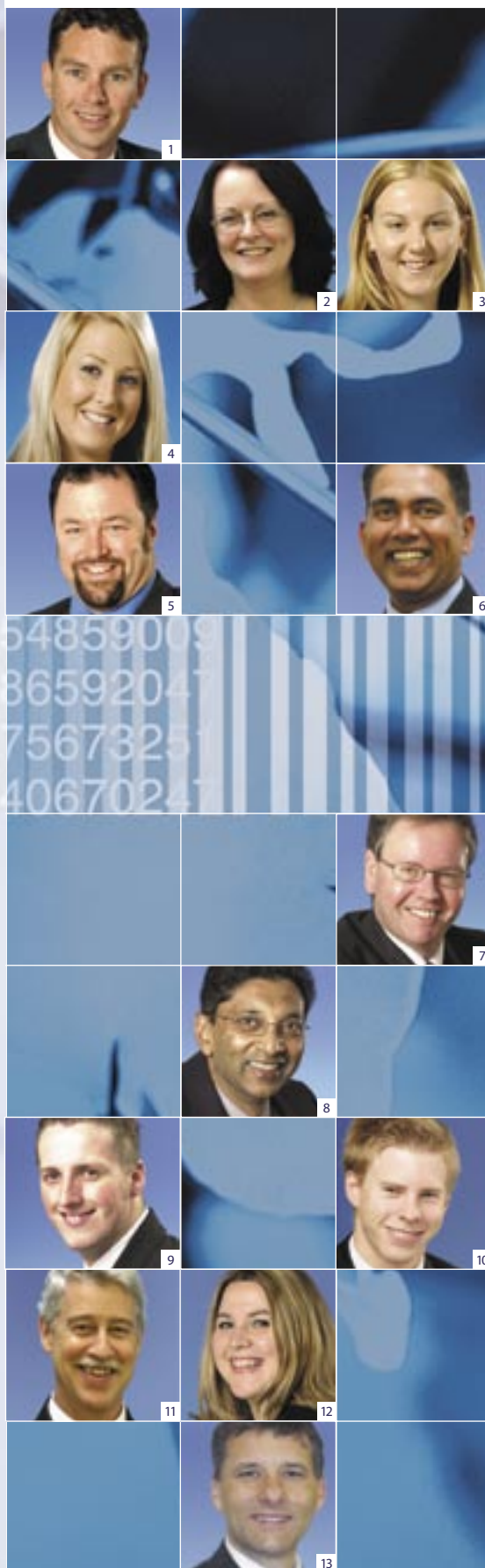
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