IDENTIFICATION • AUTOMATION • INFORMATION • COMMUNICATION • INTEGRATION

SCAN

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www.gs1nz.org

For the love of coffee … **and fair trade**

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We're doing more for the small guy

As part of its raison d'être, SCAN reports on leading edge-supply chain solutions and technologies such as EPC/RFID and data synchronisation. We also make regular contributions on these topics to no less than six industry magazines (FMCG, Grocers' Review, Food Technology, Food New Zealand, Hardware Journal and FTD).

In addition to all this writing and commentating, GS1 New Zealand makes a significant investment of resources and time to help ensure that these leading-edge solutions and technologies are actually available in the small New Zealand market. We see this as fundamentally important on behalf of our members. And it is pleasing to see other commentators say, from time to time, that the organisation is doing a commendable job of "setting the agenda" on supply chain topics.

At the same time, I am very aware that many GS1 New Zealand members are small businesses. They have small numbers of products, have relatively simple requirements of the GS1 System and, for the foreseeable future at least, have no need for EPC/RFID or data synchronisation services. This leads to the obvious question: How is GS1 New Zealand catering specifically for its many small business members?

One answer has been to reduce membership fees to reflect their relatively modest requirements of GS1 New Zealand. In fact, we did this in 2004 when a fee reduction of almost 50% was introduced as part of a new multi-tiered membership structure. The move was warmly received at the time. However, we see scope for the organisation to do a lot more for small businesses who are not yet directly benefiting from – and perhaps never will – the leading-edge solutions and technologies just mentioned.

I am delighted, therefore, to foreshadow a number of changes that will bear fruit for members in the early months of 2008. Indeed, we are changing the whole "engine" of GS1 New Zealand (actually, we're doing this without even pulling off the motorway!). The organisation's IT infrastructure is being upgraded – the financial management system, the core registries used to maintain and extend the GS1 System in this country (known as the "Number Management System"), and the backend of the website.

These changes will lead to various internal efficiencies and they will see the organisation being "turned inside out". By the latter, I mean that GS1 New Zealand will open up and start providing information held on members back to them via the website. Our "Member's Only" area is acceptable today but its functionality will be dramatically improved.

We will greatly streamline your ability to manage GTIN allocation and to hold information about your products in accordance with industry standards. We will enable you to obtain bar codes in near real time. And much more!

In our assessment, the benefits of the much improved online services will flow largely to the "little guy" – the GS1 New Zealand member who does not have the scale to, themselves, invest in product information management systems or to retain their own product development or packaging specialists.

Please see coming issues of SCAN for more on how our services are being improved, with particular benefit to our many small business members. We are looking forward to 2008. Hope you are too!

Dr Peter Stevens
CHIEF EXECUTIVE

SCAN magazine is produced quarterly for the benefit of GS1 New Zealand members. It has a circulation of approximately 5,700 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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NEW MEMBER PROFILE

EL MERCADO JUSTO FAIR TRADE

PEOPLES COFFEE

Peoples Coffee Cafe, Newtown

Matt Lamason, Director, Peoples Coffee

Coffee beans going through cooling process after roasting

Coffee bean farmer, Peru

For the love of coffee…

…and fair trade

Peoples Coffee has great knowledge of its product, from the mountains of Peru to the shelves of a Wellington supermarket. And the small coffee roasting company is enthusiastic about sharing that knowledge with the latte drinkers of Aotearoa-New Zealand.

Indeed, the Peoples Coffee's approach to business gives a whole new meaning to "traceability". As part of the global fair trade movement, the company is committed to promoting the visibility of growers in Peru, Colombia and other coffee-producing nations – and to ensuring fair market returns in support of farmers' economic development.

For Peoples Coffee director Matt Lamason, connection back to the farms that grow the coffee going into his Wellington roasting factory is very fundamental to the business. "We're producing fantastic coffee for people who love drinking it and also like the sense of solidarity with growers through their support for fair trade," he says.

Supermarkets

And Matt sees a fast growing market of such coffee drinkers in New Zealand. Having just expanded its roastery, Peoples Coffee is about to begin supply of packaged whole bean and ground coffee products to New World supermarkets in Wellington – and the company has joined GS1 New Zealand for the bar coding needed to make that important step.

"We're putting a lot of thought into the packaging which needs to help keep the product fresh for as long as possible. while also getting the fair trade story out into the market," says Matt. He also aims to use recyclable paper or other bio-degradable materials for consistency with the Peoples Coffee brand.

The product will carry the company's distinctive earthy, brown and green branding onto supermarket shelves. It's a visual identity already used on two cafes operated by Peoples Coffee in the inner city suburb of Newtown and on an information-rich web site (www.peoplescoffee.co.nz). Work is also underway on opening a third café in the city.

Politics

Matt Lamason got his start in coffee working as a barista over five years. For much of that time, he was also a student at Victoria University from which he eventually graduated with an honours degree in Political Science. He launched Peoples Coffee in October 2004 after an initial career as a Parliamentary official – a change of direction that combined an academic interest in international development issues with a love of coffee.

Peoples Coffee is, in fact, one of around 15 coffee roasting businesses in New Zealand – all sourcing significant amounts of their raw product through Trade Aid Importers Ltd, a local company that trades with grower cooperatives throughout the developing world. Roasting is a delicate process of heating green beans at 220 degrees C for a brief time, after which they are rapidly cooled and bagged (staying fresh thereafter for 7-10 days).

Certification

Peoples Coffee is a fair trade product and an organic one as well. Its status is certified under an international scheme (www.fairtrade.net) that involves registration of every qualifying farm which is then subject to regular third-party audit. Companies that source beans from certified fair trade suppliers contribute 2% of their sales to maintain the scheme.

Matt says New Zealand demand for fair trade organic coffee has been growing rapidly – sales are up nationally by around 400% over the past two years. That's good news for Peoples Coffee, but there can be no let up on maintaining and developing the fair trade connection between farmers and coffee-drinking consumers.

Each year, Matt joins a Fair Trade Delegation to meet farmers in producing nations. In May 2007, it was a trip to Peru and Colombia – and not just to an air conditioned meeting room. "I went up into the mountains and walked around farms ... we talked to people about what's really going on," he says.

Development

Much of the focus is on the development of farming communities, with cooperatives in the fair trade network committed to investing a portion of their sales income in health, education and other social programmes. For Peoples Coffee, these trips also yield new information to be shared with New Zealand consumers, on the company website, in its cafes and, soon, on packets of product sold through supermarkets.

We learn, for example, that the Peoples Coffee "Columbian Excelso" blend comes from beans grown at an elevation of 1400–1900m, and harvested between April-June. The beans are produced and sold by Empresa Cooperativa del Sur del Cauca, a co-operative established in 1993 and now representing 1090 farmers. This blend, according to People Coffee, is "soft with a round body, mild acidity and mellow oaky tones".

Matt says his new supermarket range – complete with such detailed information and GS1-complaint bar coding – will include single-source coffees and blends, with a choice of ground product or whole roasted beans. And with each cup, the drinker can be assured of a fair return to the families who tended and picked the crop.

Coming out **better off**

Mitre 10 promises its customers, "you'll come out better off". That's exactly what the hardware group expects for itself with the adoption of GS1net for data synchronisation with its suppliers.

Mitre 10 is one of the first New Zealand organisations to act on the advantages of GS1net. "Better off" will mean, among other things, a big reduction in the time and expense routinely required to fix problems that arise from having incorrect data in the Mitre 10 master product file and/or the files of individual stores.

Point of Sale Manager Roger Nickerson is looking forward to far fewer credit claims from suppliers – the cost of attending to each claim works out at around $50 and there are 300-400 claims in the average month. "Orders from stores can be sent automatically to our suppliers via our intranet. Incorrect data stuffs this up nicely," says Mr Nickerson. "If we get it wrong, and we do, the flow-on affect is frankly mind boggling."

Integrity

Mr Nickerson sees multiple benefits to Mitre 10 from the substantial boost to "product data integrity" that GS1net should deliver – benefits that range from savings in accounts payable, to greater effectiveness in category management and advertising, to improved in-store availability of products.

Data synchronisation should translate into higher sales and lower costs across Mitre 10, especially as the group expands in number of outlets and in product range. Established in New Zealand in 1974, Mitre 10 is today a chain of over 120 owner-operated stores in the growing markets for "do-it-yourself" home improvement, household goods and hardware. In the latest development Mitre 10 MEGA stores are being opened throughout the country, offering an even bigger range of products.

The Project

Mr Nickerson says Mitre 10 started its GS1net project with a pilot involving just three suppliers who agreed to do the necessary "clean up" on their product data and apply the new GS1net format. He says this has gone very well and has been followed in October with GS1 New Zealand-sponsored seminars for the 60 biggest Mitre 10 suppliers.

Supplier attitudes, Mr Nickerson says, are very positive and the first of them are expected to "go live" on GS1net with Mitre 10 during the first half of 2008. His team has looked closely at the Foodstuffs' experience with data synchronisation on EANnet. "We've learned that you need to break the transition down into small chunks and have someone dedicated to driving the project on a full-time basis," he says.

Mitre 10 is already "better off" after putting a big focus on bar code quality in response to the sector-wide survey undertaken for GS1 in 2004-05. "The survey showed our bar code quality was absolutely abysmal. Everyone has learned since then and our suppliers must submit their bar coding for GS1 verification," says Mr Nickerson.

Stores are now giving feedback that problems with bar codes are very minor compared with the past. Mitre 10 is looking forward to the same type of feedback on product data integrity.

GS1net is here!

By Priya Kunthasami, GS1 New Zealand Professional Services Consultant

GS1net is gathering momentum in the New Zealand grocery, hardware and stationery sectors. GS1 New Zealand is guiding suppliers to Mitre 10 and to Warehouse Stationery through their first steps to become GS1net Ready, while also supporting suppliers to the Foodstuffs companies with migration across from EANnet.

The first GS1net Ready supplier to Foodstuffs was declared to be so on 30 October and the GS1net Live process is expected to start in January. EANnet was the data synchronisation service previously supported by GS1 New Zealand. More than 26 suppliers to Foodstuffs reached EANnet Ready status, with a further 45 suppliers at various stages of preparation. Foodstuffs will now move entirely across to GS1net and EANnet will be decommissioned in March 2008. By then, all suppliers on that platform will need to be migrated to GS1net.

All Foodstuffs suppliers previously registered for EANnet have now been given a "migration week". The Professional Services team at GS1 New Zealand is holding a weekly "GS1net Key Concepts" conference call for suppliers, and assisting them to go through mandatory GS1net training scripts, at their own pace and in their own time. Once the training scripts have been completed, the EANnet data will be ported across to GS1net by the Professional Services team. Each supplier achieves GS1net Ready status after certification of their internal business processes. In all, there are 166 Foodstuffs suppliers now registered for GS1net.

We have also established a clear path towards GS1net for the suppliers of Mitre 10 and of Warehouse Stationery. Mitre10 wants to have its first 60 suppliers onboard within six months. As an incentive, the first 10 to demonstrate a pro-active approach will receive a 25% discount off of their selected engagement.

For Warehouse Stationery's "priority suppliers", the first step is to attend the Warehouse Stationery GS1net course. After this, they can begin entering their data in GS1net formats and the company will put infrastructure in place to receive GS1net data early next year. No date for the GS1net Live has yet been mandated.

For any supplier who is GS1net registered, GS1 New Zealand holds a weekly conference call to clarify key concepts and answer questions. The call is held 12.30 – 1.30pm on Tuesday – further details available on request from eligible companies.

GS1net – the basics

GS1net is a data synchronisation platform that connects retailers to their suppliers and ensures product data integrity. GS1net is the Australasian "data pool" of the Global Data Synchronisation Network (GDSN), through which retailers and suppliers anywhere in the world can be connected to the GS1 Global Registry™. The GDSN divides the world into 20 data pools – and it is this global linkage that differentiates GS1net from the previous synchronisation service of EANnet.

GS1net is designed for use by trading partners in any industry and at any step in the supply chain to synchronise their product data, and to gain secure access to product information including item attributes such as:

- specific trading partner terms and pricing;
- product availability, release dates and promotional campaigns; and
- packaging, dimensions and imaging for shelf space management .

Warehouse Stationery leads

Warehouse Stationery will become the first office products company in Australasia to adopt GS1net for improving data quality in its core systems and for streamlining its receipt of electronic catalogue data from suppliers.

Mark Denvir, General Manager eCommerce & Information Technology, says data synchronisation via GS1net is integral to Warehouse Stationery's strategy. "High quality master product data is essential for good quality decision making. Category management, and effective merchandising and replenishment rely on having the right information about the products we range," he says.

The move will complement Warehouse Stationery's successful rollout of a new merchandising system in late 2006. Mr Denvir announced the GS1net decision in August, and GS1 New Zealand is now working closely with the company and its supplier community to achieve an efficient rollout to the benefit of all.

GS1 New Zealand's *Connecting the Dots* conference brought together New Zealand business managers and supply chain management experts for two highly stimulating days during August. More than 150 people attended the event (at the Waipuna Hotel & Conference Centre, Auckland). Presentations and panel discussions covered the latest developments in bar coding and EPC/RFID, in retailing and traceability, and in data synchronisation. SCAN reports back on four conference speakers.

GS1 New Zealand thanks everyone who participated in *Connecting the Dots*. We particularly acknowledge the following for their support and commitment to the event.

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Connecting the Dots was hosted in association with IBM, Saito Group, SATO, EDIS, Image Net and 3media Group. We look forward to seeing you again at our next conference – please see the December 2007 SCAN for further details.

Bar codes save lives

Health Minister Pete Hodgson opened *Connecting the Dots* with impassioned support for the introduction of bar code point-of-patient care (BPOC) in public hospitals. The Government has committed itself to this major patient safety initiative over coming years (see SCAN no. 21). The Ministry of Health will set up a BPOC project that encompasses the 21 District Health Boards and key healthcare advisory bodies.

Mr Hodgson says BPOC is part of ensuring New Zealand has a high–performing healthcare system – and part of that is being a system mature enough to admit that it makes mistakes and to adopt new ways to avoid making mistakes in future. He reports Ministry findings that around 4,000 patients are injured each year through errors in drug administration, some of them permanently. Indeed on one estimate, around 150 people die as a result of errors each year.

"It's not to say we're any better or any worse than any other developed healthcare sector. The fact is that errors can and do occur despite the best efforts of dedicated professionals striving to provide the best care possible to their patients," says Mr Hodgson. "Each time an error occurs, those people injured have to spend another week on average in hospital recovering … that costs us, as taxpayers, about $25 million each year – money that could have been spent elsewhere in health."

In opening the conference, Mr Hodgson acknowledged GS1 New Zealand's positive contribution to raising BPOC as a practical solution in this country. "GS1 has been an advocate and has provided considerable leadership for some time in this area." He also emphasised the need for solid "buy in" on a particular BPOC proposal from all healthcare sector stakeholders, with a focus first and foremost on the quality of care for patients and on the "business case" for avoiding costly-medication errors.

Ministry discussion papers outline proposals for a system in which pharmaceuticals are packaged at unit dose level with bar coding at that level. Medicines would be administered only after those bar codes are scanned at the bedside along with bar codes assigned to individual patients. BPOC would involve verification of medicines and dosages against a patient's identity and medical records that include electronic prescription.

Traces of milk

"The boys will never go back to writing up four dockets for a train. They love it!" So says Michael Teen, Product Controller for Westland Milk Products, in summarising staff responses to his company's GS1 standards-based tracking and traceability system.

Westland Milk saw "project buy in" by users as critical in designing and testing its Pallet Location Management (PLM) system – and that's reflected in the project outcome. Staff at the company's four factories, three warehouses and Hokitika head office now have an efficient tool for identifying, tracking and tracing each pallet load of product.

Mr Teen says PLM provides Westland Milk with "immediate, accurate and total access to production and stock level information … with a dramatic reduction in errors. We have complete integration of product control with other internal systems."

Staff scan pallet-level bar codes at the warehouses and thereafter each time that the product – milk powders and other dairy-based "nutritionals" - is moved, including on and off the trains between Hokitikia and Christchurch (85% of production is exported by ship). PLM is linked to marketing, financial and laboratory-testing systems, allowing automation in core functions.

"Within seconds, we can track any lot of product on request from a customer," says Mr Teen. "The interface with our financial system means that once a pallet is loaded onto a ship, a bill to the customer can be automatically created."

Westland Milk – a cooperative company with 390 farm suppliers and $250 M in annual sales – had to radically improve its systems after taking on marketing and stock management functions previously handed by the Dairy Board (until 2001). Old manual, paper-based systems were swamped with the extra requirements. Mr Teen says the problems included double-handling (or quadruple-handling) of documents, "double selling" of product and incorrect shipments to customers.

The company started by looking at its range of options for replacing its manual systems and by talking with the staff involved. PLM was then developed with help from Walker Datavision. Mr Teen says together – and with staff input all the way – they have created a "focused, nimble and personal business tool".

GS1 solves meaty issues

When it comes to meat traceability systems, the New Zealand beef industry can learn much from its Australian counterpart. The biggest lesson is the need to link on-farm animal identification with meat products in the processing and distribution sectors of the supply chain – and GS1 standards are the key to achieving this. That was the message from Ian King, Chief Executive of AUS-MEAT, the company responsible for establishing and maintaining a uniform trading language for meat and livestock in Australia.

Mr King's presentation made a strong case for farmers, as well as processors and marketers, to take responsibility for paddock-to-plate traceability. Food safety and the integrity of information about food are now global concerns that increasingly determine access to consumer markets, he says. For the meat industry, "that means absolute coverage of traceback and trace forward systems on a whole-of-life basis. In addition, claims related to organic production, feed regimes, environmental systems and animal welfare must be verifiable."

The Australian industry – 4% of the world's beef production but 23% of the global export trade – is well ahead of New Zealand on traceability, with RFID tagging of cattle on 185,000 properties and a national database for storing and updating data on animals. (This country is in the design stages of a national animal ID and traceability scheme for beef and deer).

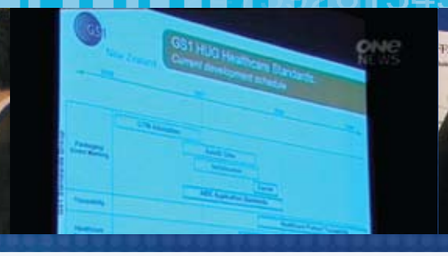
Mr King says Australia's system started in the late 1990s without common information standards throughout the supply chain. The industry has since wrestled with the need for automatic linkage of information on individual livestock with meat products. In the abattoir, this means an animal ID number is transferred to a carcass number, with consistency thereafter in identifying primal and sub-primal cuts, and packaging into cartons of final product.

The lesson for New Zealand, Mr King says, is to "make sure that compatible GS1 standards are used for ear tags on animals and for bar codes elsewhere in the meat industry". While not wanting to lecture this country on what to do (althought he is a Kiwi himself), he says New Zealand can save time and money on applying a "common language" industry-wide and not getting side-tracked on narrower issues in the livestock sector alone (eg choice of ear tags).

MINISTRY OF HEALTH
MANATŪ HAUORA

Westland Milk Products
NEW ZEALAND

AUS-MEAT
limited



Four mega trends in retailing

Information technology is increasingly important to retailers, with major implications for the future shape of the New Zealand retail sector. This is one of four "retail mega trends" identified by Tim Morris, Managing Director of Coriolis Research.

Tim says the world's leading retailers are investing in IT that reduces cost through more efficient inventory management, less need for manual work and electronic documentation. IT has, for example, enabled Wal*Mart to reduce its working capital requirements by trimming inventory levels from 21.4% of sales in 1975 to 9.8% now. Tim also points to the power of IT for increasing sales through reduced out-of-stocks, customer loyalty schemes and more localised assortment of what stores offer customers.

He believes the increasing importance of IT will hasten the roll-out of RFID at retail item level. At the same time, it will become more difficult for smaller retailers to compete with the investment of time and capital that is required. Ultimately, the rise of IT in retailing will promote globalisation in this sector – a second of Tim's "mega trends".

He says the top 10 global retailers have minimal activities in Australasia (only Costco and Target of the US have interests in this part of the world), but he predicts that will change through acquisitions and organic entry. New Zealand will be impacted by the growth of global retail chains in Australia and indeed, Tim says the pace of trans-Tasman integration in retail is rising.

On the other hand, there are some economic and social forces against globalisation (eg dis-economies of scale as organisations become larger, consumer preferences for more local brands). Tim sees the globalisation trend accompanied by strong competition from selected, strong local retail leaders. In New Zealand, he sees such a contest between Woolworths Australia, an "emerging globaliser", and local leader Foodstuffs.

Globalisation is certainly not "a done deal" and Tim sights, as an example, the food retail sector in South Korea where both Wal*Mat and Carrefour (the two biggest global retailers) pulled out because they could not compete successfully in key food categories. In general, he says local leaders will need world-class store formats and systems in order to win against the globalisers.

His third "mega trend" is an expanding market position for both large one-shop-stop retailers and "category killers" – in competition with each other and both growing at the expense of traditional middle-of-the-road retailers without a strong point of difference. The two winning retail formats can be global or strong local leaders.

In New Zealand, Tim points to The Warehouse and Woolworths Australia as the leading, one-stop-shop "hypermarket" retailers with a sustained growth outlook. For an example of a successful "category killer", he points to Rebel Sports (store numbers up from two to 27 in the past 10 years with turnover almost doubling in seven years). He believes more international "category killers" will come here as part of the globalisation of retailing.

The fourth "mega trend" is simply the constancy of change. Tim highlights the evolution of retail concepts and formats – new ones will continue to appear and today's winners will, inevitably, fade. Typically lower-price formats attempt to move up-market, with mixed success. New Zealand will always tend to adopt successful formats overseas – and once again, technology will be a significant influence on developments.

BAR CODE VERIFICATION

Cadbury quality

Bar code quality isn't just a treat at Cadbury Confectionery Ltd. It's part of the staple diet of a $240 million business.

No matter how tasty its products, Cadbury knows that sales rely on the ease and efficiency of distribution to consumers, in New Zealand and internationally. And that, in turn, relies on the scanability and accuracy of the bar codes that appear on each level of packaging, from the shipping case which arrives at back of a retail store to the wrapping on each Easter egg or chocolate bar.

How fitting, therefore, that a Cadbury Marshmallow Santa Multipack recently became the **100,000th** item to be subjected to bar code verification at GS1 New Zealand. Dunedin-based Cadbury routinely sends such delightful samples to GS1 for the verification process – in fact, one or more every week.

"We absolutely expect our bar codes to be GS1 compliant although, of course, there were some hiccups in the early days of verification," says Russell Hurring, Packaging Manager at Cadbury. The company relies on designers and printers with the right accreditation to supply it with packaging that meets the rigorous standards of GS1.

Mr Hurring says the verifications are really just a final check that the design process has delivered a bar code of acceptable quality whenever a new package is being introduced. And that happens frequently, thanks to Cadbury's ongoing product innovation and seasonal shifts in demand for different types of confectionery in the company's many markets.

"It's the job of our packaging technology people to ensure that whatever the packaging material required in the market it can be made to meet the bar code scanning standards," says Mr Hurring. "Our sales performance depends on getting it right and that means feeding new samples of packaged products into the GS1 verification process on a regular basis."

And that Cadbury Marshmallow Santa Multipack? The packaging passed with flying colours – and GS1 staff report the same for the contents as well.

GS1 for dummies

RFID and EPC

SCAN routinely reports on developments with the new technologies of EPC and RFID. The latter is radio frequency identification, while EPC is the set of information standards created by GSI global for use with RFID. There's a general understanding that EPC/RFID will, some time in the future, take over from bar coding as the ubiquitous means of identifying and managing items throughout the supply chain.

Here are the basics on these two much-talked about (and perhaps not-yet-widely-understood) technologies.

What exactly is RFID?

Radio frequency identification (RFID) is a technology for automatically identifying, tracking, sorting and detecting an infinite variety of objects including consumer products, vehicles, containers and pallets, and even people. RFID involves the transmission of radio frequency (RF) waves between a reader and tag attached to, or embedded in, the objects that are being identified, tracked etc. It requires neither contact nor line of sight with a reader. RFID overcomes many of the problems with other technologies for automatic ID – it can operate through sunlight, wet, extreme cold, dirt, grease, and many corrosive chemicals.

Most RFID tags have two components – a circuit or microchip for storing and processing information, and an antenna for receiving and transmitting RF waves. "Active tags" also have their own small battery and they constantly send out a signal ready for receipt by a reader. "Passive tags" have no power source of their own but receive sufficient energy from incoming RF to activate their processor and transmit back. These tags are cheaper to make and are used most in current applications of RFID. They can be extremely small and suitable for consumer products.

RFID tags can store and transmit the identity of an item and, depending on their memory size, other relevant information. In most current uses, tags have only a unique identification code (a "licence plate"). RFID technology has developed from systems used by the Allies during WWII to identify friendly aircraft from a distance. The first RFID-type technology patented in the United States was a passive radio responder with some memory, in 1973. This was followed in 1983 by the first US device to be formally identified as RFID.

What are the technical advantages of RFID?

RFID has four main advantages:

- readers do not require line of sight with tags;
- multiple tags can be read simultaneously;
- tags and readers have no moving parts so a system rarely needs maintenance, operating for extended periods; and
- it is extremely fast – in the case of passive tags operating on ultra high frequency radio waves (UHF), over 500 tags can be read *per second*.

What are the disadvantages of RFID?

Like any technology, RFID has limitations;

- read distance is critical in each application – passive tags have read distances ranging between 10cm and 5 - 8 metres;
- some materials are not transparent to radio waves – RFID may not work sometimes in close proximity to water or metal objects; and
- the cost of tags – manufacture is sensitive to economies of scale and the unit costs of tags must be assessed in relation to the value and use of the item being tagged.

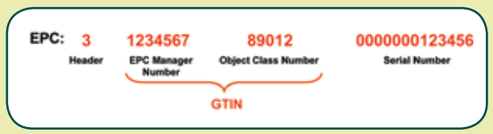
On tag costs, reduction is expected to occur over time as the number and range of RFID applications grows, and tag demand increases. Ultimately, RFID is predicted to become an inexpensive form of automatic identification technology given the longevity and low running costs of particular applications.

What exactly is an EPC?

An Electronic Product Code is a standardised way of encoding the "RFID identity" of any item. That identity will consist of a manufacturer, a product or an asset, plus the particular version of that product or asset, plus a particular unit of that version. The latter is the serial number of the item – and the ability to "serialise" items is the key feature of an EPC.

An EPC is made up of three sets of data, preceded by a header number (see example below). The header identifies the version of each particular EPC - different versions have different lengths and other characteristics. The first set of data identifies the EPC Manager who is most often the product or asset manufacturer – a global example might be "The Coca-Cola Company". The second set of data is the Object Class Number to identify the exact type of product or asset – following the Coca-Cola example, the object class might be "Diet Coke 330 ml can, US version". The third set is a Serial Number unique to each unit of the product or asset – for example, an individual can of Diet Coke produced at bottling plant XYZ on 20 October 2007 at 1100 as part of batch no. 123456789.

The EPC is encoded on the tag's microchip, ready to be accessed by a reader and transmitted back to decoding. The encoding is in digital bits (rather than the visual bars and spaces of a bar code).



What are the different types of EPCs?

EPCs can be either 96 bits or 128 bits (and other sizes will follow in future). The 96-bit EPC will allow unique identifiers for 268 million companies and, in fact, each of these could have 16 million object classes and 68 billion serial numbers in each class – more than enough to cover all products manufactured worldwide for years to come!

EPCs also vary according to the types of unique identification numbers they encode. Some carry serial shipping container codes (SSCCs), others global individual asset identifiers (GIAIs) and so on. EPCs can include any of the GS1 identification standards, depending on the requirements of users.

What are the EPCglobal and "Auto-ID Labs"?

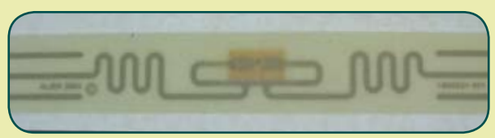
EPCglobal Inc is an international organisation, formed and promoted by GS1global for the development of EPC standards based on the needs of users. EPCglobal provides practical support for the wider implementation of EPC as the best standard for RFID. Companies anywhere in the world can become EPCglobal members, able to create and use EPCs as part of their own RFID programmes (see www.epcglobalinc.org).

The Auto-ID Center was an international grouping of companies and universities that developed EPC/RFID before the establishment of EPCglobal. Now, the "Auto-ID Labs" continue as a network of research centres in seven major universities; the Massachusetts Institute of Technology in the United States, the University of Cambridge in England, the University of Adelaide, Keio University in Japan, the University of St. Gallen in Switzerland, Fudan University in China and the Information and Communications University of Korea. The Auto-ID Labs are doing fundamental research on RFID technology and its application worldwide (see www.autoidlabs.org).

What is so great about EPCs?

EPCs greatly expand the capabilities of RFID. The latter is a technology for automatically identifying items with little or no manual intervention. EPCs enable that identification to be globally unique and standardised – and this, in turn, enables trading partners to easily exchange data and have far greater visibility on items moving through a supply chain. The EPC tag on that individual can of Diet Coke, for example, means it can "seen" by a computer each step of the way – and tracked and traced with speed and accuracy. The serialisation of EPC-tagged items is extremely useful in such circumstances of product recall.

Trading partners can now use EPC-IS (Electronic Product Code Information Services, see SCAN No.21) to automatically exchange EPC-encoded data. EPC-IS is a set of technical specifications for enabling such exchanges despite differences between companies' operating systems and programming languages. The "EPC network" is a term for describing EPC-IS enabled exchanges. Ultimately, EPC /RFID could eliminate the need for inventory counts within companies, while drastically reducing the loss or misdirection of goods in supply chains. These and other benefits could lead to huge cost savings, market efficiencies and customer benefits.



More than **expert advisers**

From Shaun Bosson, Professional Services General Manager

We have established the GS1 Professional Services team to help members overcome issues in their own operations and in the greater supply chain. Team members are experts in how to implement GS1-compliant supply chain solutions effectively and how to make a real difference in members' businesses, large or small.

We are more than a "knowledge bank" of expert advisors: we not only come up with solutions but provide practical help with their implementation. The team includes people with significant best-practice experience in both New Zealand and international environments – and they pride themselves on proven, practical and independent solutions.

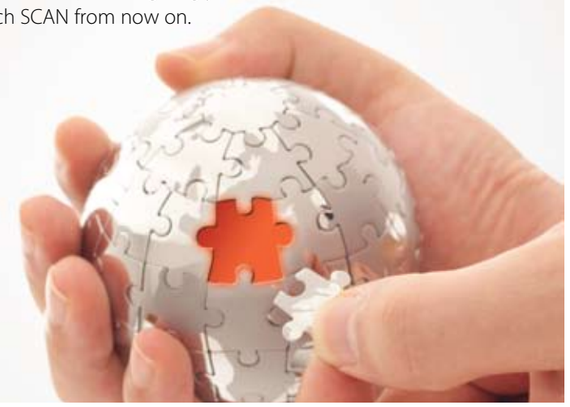
The team's range of current projects includes working with a well-known fruit pack house on an EPC/RFID implementation that will support its enhancement of inventory management and potentially deliver significant benefits to customers. We are supporting this initiative as a trusted partner, from the conception stage through to vendor selection and implementation

We are also working with an expanding trans-Tasman warehouse and distribution organisation to select and implement an appropriate warehouse management system that will incorporate GS1 automatic data capture standards.

The team is involved in supporting the Ministry of Health in its first steps on patient bar coding and bedside verification of medicines administration in New Zealand public hospitals.

In another project, we are providing continued assistance to several large New Zealand retailers as they plan and roll out data synchronisation using GS1net, within their own organisations and their supplier communities (see pages 6,7).

The team is working hard as a skilled, cost effective, and vendor-neutral provider of professional services to GS1 members. We plan on giving you an update of our activities in each SCAN from now on.



Seminars update

More Bar Code Foundation and GS1net (formerly EANnet) Foundation Seminars have been scheduled for early 2008. These events will be held quarterly from now on to meet increased demand among GS1 New Zealand members.

The Bar Code Foundation Seminar runs from 9am – 1pm and is a "must" for all new GS1 members. It provides a thorough grounding in how bar code numbering works, and how bar codes are created and managed. Seminar dates in 2008 will be:

- **Auckland** - 28 February, 29 May, 28 August, 23 October
- **Wellington** - 26 February, 27 May, 26 August, 21 October
- **Christchurch** - 27 February, 28 May, 27 August, 22 October

The **GS1net (data synchronisation) Foundation Seminar** (formerly EANnet) is particularly important for suppliers to the Foodstuffs group, Mitre 10 and The Warehouse Stationery (all on track to implement GS1net, see pages 6 & 7). Seminar dates in 2008 will be:

- **Auckland** - 3 April, 12 June, 4 September, 30 October
- **Wellington** - 1 April, 10 June, 2 September, 28 October
- **Christchurch** - 2 April, 11 June, 3 September, 29 October

GS1 will also schedule Bar Code Foundation Seminars specifically for the hardware sector throughout 2008. Once finalised, dates and venues will be published on www.gs1nz.org and in SCAN. The seminar calendar will also feature education sessions to prepare for January 2010, when Data Bar (formerly RSS – Reduced Space Symbology) will be available for retail use.

For further information on seminars, refer to the GS1 website, or call or email Pauline Prince on 04 494 1067 or pauline.prince@gs1nz.org.

Prize draw WINNER

Congratulations to Scott Robertson, winner of the GS1 New Zealand prize draw for respondents in the recent bi-annual members' satisfaction survey.

Scott is the Production & Inventory Manager for Tetral Industries Limited, the Christchurch-based manufacturer of Mactrac aluminum curtain tracks. He has won an iPod in the draw.

This year, the members' survey attracted more than 580 responses, which was well ahead of 2005.

Questions?

Please contact the GS1 New Zealand team

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Vijay is based in Auckland with responsibility for GS1 relations with members from Taupo northwards.

Tim Doherty

GS1 New Zealand Verification Services Manager

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E tim.doherty@gs1nz.org

Tim is based in Wellington with responsibility for managing the verification service. Tim also manages the helpdesk for verification or bar code queries on 0800 10 23 56.

Esther Hamilton

GS1 New Zealand Membership Services Administrator (aka "Director of First Impressions")

T 04 494 1050

E esther.hamilton@gs1nz.org

Esther is the "meet and greet" point of contact for members either calling, emailing or visiting our Wellington office.

GS1 New Zealand

NEW MEMBERS JOINED > JULY - OCTOBER. WELCOME!

ACCESSORISE 2000
ACCURATE INSTRUMENTS NZ LTD
ADAM DESIGN STUDIO
ADVANCE CLIMATE TECHNOLOGY NZ LTD
AESTHETICA TRADING
ANNANDALE FEEDS LTD
AQUA PRO LTD
AQUASPLASH LTD
ASHLEY & CO LTD
BIG FISH PRODUCTIONS
BLUELAB CORPORATION LTD
BOTANICAL COLLECTIONZ LTD
BRACE-IT LIMITED
BREADWORKS
CANDO FISHING LTD
CANTERBURY VINEYARDS LTD
CARDPLUS
CATSEYE MEDIA
CES COMMUNICATIONS
CHOCOLATE TEMPTATIONZ
CNS COSMETICS NZ LTD
COLE RYAN
COLOURWAY RECORDS LTD
CORINTHIAN HOMES LTD
COUNTRY PRIDE PROCESSING LTD
CRIGHTON ESTATE LTD
CRUPPLES
DARK STAR IMPORTS
DAWELL FURNATURE CO LTD
DD FOOD LTD
DEEP WATERS TRUST
DELI DOWN UNDER
DOPPEL LIMITED
DOUGLAS PHARMACEUTICALS LTD
EN-DOR
ESSENTIAL TOUCH
ETCWARE LIMITED
FASHION BIZ LTD
FIBRETECH NZ LTD
FINGER PUPPET HEAVEN
FIREHORSE FILMS LTD
FLASHIT LTD
FLOW SOFTWARE LTD
FOCUS GLOBAL LTD
G BEE BIRD
GLOBAL TRENDS NZ LTD
GOOD HARVEST CO LTD
GOURMET GRAINZ
GPI AUTOMOTIVE (NZ) LTD
GS & FE ORMANDY
HAA IMPORTS & EXPORTS
HAWKSBURN TERRACES VINEYARD LTD
HEALTH CARE PRODUCTS LTD
HELICONIA FLORIST
HOMME PUBLISHING LTD
HUSHAMOK
IMAGE CENTRE PUBLISHING LTD
INDEPENDENT MEAT PROCESSORS LTD
INTUITIVE INNOVATOR T/A CANDELA
JIN TAI YUAN COMPANY LTD
KAIMAI CHEESE COMPANY LTD
KAIMING AGRO PROCESSING LTD
KANE STEVES
KARMICK MARKETING LTD
KIWI IDEAS COMPANY LTD
L.P.B T/A ICE BANDITS
LA VALLETE PTY LTD
LAMBERTINOS LTD
LATITUDE MEDIA LTD
LEAFYRIDGE OLIVES LTD
LEIGH FISHERIES LTD
LES MILLS MERCHANDISING
LIFETIME HEALTH PRODUCTS PTY LIMITED
LIGHTHAUS MEDIA LTD
LOGIC ENERGY LTD
MA MASON WINES LTD
MAX FASHIONS LIMITED
MC PHAILS SPORTS LTD
MCARTHUR RIDGE WINES LTD
MCCRACKERS SPORTSWEAR & GOODS LTD
MEET VENI
MOON ENTERPRISES LTD
MOUNT BROWN VINEYARD LTD
MR VINTAGE
NEW WORLD WINES LTD
NEWTON SEED T/A JOHN TUTL LTD
NUTS
NZ AGRISEEDS LTD
NZ ASSOCIATED REFRIDGERATED FOOD DIST
ORRSOME ICONS LTD
P J KINSMAN & CO LTD
PACIFIC MERCHANTS LTD
PACIFIC PERFUMES
PAPEROYALE ENTERPRISES
PEAR TREE WINES
PRAWN ONE LTD
PREMIUM BRANDS MARKETING LTD
PRODOTTI D'ITALIA HOLDINGS LTD
PRODUCT SOURCING 2000 LTD
PROGRESSIVE PROCESSORS LTD
PULSE WHOLEFOODS LTD
RATA DESIGN
RED WITCH ANALOG LTD
REDJACKS BREWING COMPANY
REDOUBT HILL VINEYARD
REDWAY DEVELOPMENTS LTD
RIDGEWAY OLIVES
SALVARE ESTATE LTD
SERIOUS ABOUT MUSIC (SAM) LTD
SPEED TOOLS
SPICE ISLAND LTD
SPORT OPTICS NZ LIMITED
STAR DESIGN FURNATURE LTD
STUDICOM SOLUTIONS
SUNDAY DISTRIBUTION
SUZANNE PAUL PROMOTIONS LTD
SVORD KNIVES LTD
T LEAF T LTD
TACKLEMAN LTD
TACKLEME FISHING SUPPLIES
TE KAHU WINES LTD
TELEGISTICS LTD
TERMA PROPERTIES LTD T/A SALTINGS ESTATE
THE FABRIC CARE COMPANY
TIME FOR KIDS LTD
TITAN LTD
TMA GROUP OF COMPANIES LTD
TOPSTAG INTERNATIONAL (NZ) LTD
TOTAL WATERPROOFING SOLUTIONS
TRAVEL SAFE SECURITY PRODUCTS LTD
TUSSOCK RIDGE VINEYARD LTD
UNCLE CHANGS GROUP
UNCLE VERNS
UNIQUE FOOD GROUP LTD
VALLI VINEYARDS
VERTO NZ LTD (TRADING AS MADE 4 BABY)
WAIHEKE HERBS
WESCO FARM PRODUCTS
WHITE STONE HONEY
WHITIANGA ICE SUPPLIES
WILDE VINEYARDS LTD
WINSLOW
WORKPLACE SAFETY SUPPLIES LTD
YEALANDS ESTATE
ZEALEA HEALTH LTD
ZENITH HOLDINGS LTD