

# SCAN

ISSUE 50 SEPTEMBER 2020

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## Aroa world-leading biologics with traceability

Interview with Brian Ward

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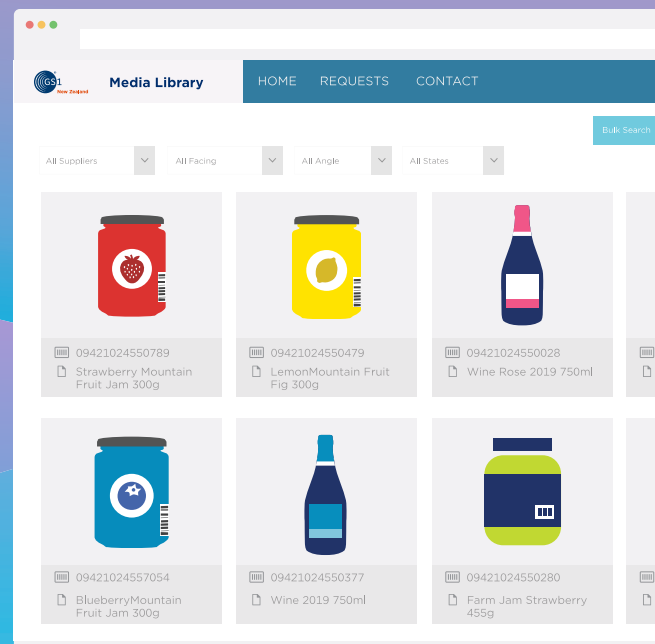


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SCAN magazine is produced twice yearly for the benefit of GS1 New Zealand members. It has a circulation of approximately 6,000 readers throughout the country as well as 114 GS1 member organisations worldwide.

SCAN reaches decision-makers in a wide range of industry sectors including grocery, FMCG, healthcare, logistics, manufacturing, retailing, wholesaling, transport and government. 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, (barcoding) staff and packaging coordinators.

Unless otherwise indicated, articles appearing in SCAN may be reprinted provided that GS1 New Zealand is acknowledged.

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## Infostructure in the time of COVID-19

COVID-19 is horrendous for our economy, not to mention peoples' health and wellbeing. How critical, therefore, that all of us support the NZ COVID Tracer app for stopping community transmission. And how critical also that GS1 location identifiers can enable our national tracing system to work with accuracy and speed.

Every Kiwi is being urged, rightly, to download and use NZ COVID Tracer App on their smartphone. For their part, businesses are urged to download, print and display a Ministry of Health-supplied QR code for each of their locations. Each of us visiting or working at any location will need to scan the code on arrival – and thereby, automatically record the place, date and time in their phone's "digital diary".

The GS1 identifiers in question are Global Location Numbers (GLNs). Every business location – shop, restaurant, office, warehouse and so on – can have a unique GLN. That QR code posted at your favourite café or your workplace door is simply a means of presenting its GLN in a form that can be scanned for automatic creation of a new diary entry.

So, NZ COVID Tracer works like this: You scan a QR code; the diary entry thus created accurately identifies the place, date and time; whenever your smartphone is online, it is enabled through the app to receive notifications of all places and dates/times associated with people who have recently been tested COVID positive (their movement details having been collected by health officials after diagnosis); the notifications are "silent" (you do not see them) but the app will alert you to matches in place and time that do occur between you and a COVID-positive person; and in response to any match alert, you are advised to seek medical

advice and perhaps have a test yourself. If you test positive, you are asked to share your digital diary with the Ministry – and so the process of notification and tracing alerts can continue.

Critically, the system collects no information on you or your movements until such time as you are alerted of possible infection, are tested and agree to share your digital diary. Obviously the act of scanning a QR code does not signal your whereabouts to anyone else: NZ COVID Tracer does not automatically collect information from your diary. The app has been designed with individual privacy as a critical consideration.

In all this, the importance of the GLN cannot be over-stated. How could any matching process work efficiently without some means of uniquely identifying every single location for possible connection with anyone in New Zealand? In fact "unique" means globally unique: Your café or workplace can be digitally distinguished from every other location in the world.

Of course GLNs are not new. They have been used for years by GS1 members for multiple traceability and business management purposes, and they are the foundation of the New Zealand Business Number (NZBN) scheme. Every NZBN is drawn from a massive block of GLNs supplied by GS1 to the Government years ago, and businesses can now receive their own sets of serialised GLNs

to identify each of their locations. These and other forms of GS1 identifier are components of the "infostructure" which New Zealand, like other countries, is building to facilitate e-Invoicing and other forms of digital connection between companies, and between companies and government agencies.

COVID-19 has no silver linings. But it is giving us all another glimpse of how infostructure can truly serve a modern economy, especially in times of great need.

Kia kaha.



Dr Peter Stevens  
Chief Executive

Celebrating  
**50** editions  
of SCAN  
since 2001



GS1 New Zealand sadly notes the passing in June of Paul Cressey, formerly a long time member of our Board. Paul, a pharmacist by profession, made a huge contribution to the New Zealand Healthcare sector in various roles throughout this career. He was deputy Chair of the Counties Manukau District Health Board for many years, and an appointee to official working groups on issues that encompassed leadership and governance, and health information standards. Paul was a Ministerial appointee to the GS1 Board from 2007 to 2016. He was a tremendous advocate for GS1 Standards and data quality in the Healthcare sector, and a highly valued colleague and friend to GS1 Board members and staff.

Our deepest sympathies go to Paul's wife, Sheryn and their family.





# QSafe – digital innovation for control of medicinal cannabis

Medicinal cannabis involves pharmaceutical innovation with potentially huge therapeutic benefits. And its arrival in New Zealand has spurred digital innovation hugely beneficial to control of this particularly sensitive form of medicine. Eqalis Pharmaceuticals has created a smart, secure system for the in-pharmacy storage and dispensing of its cannabinoid products – and not surprisingly, the use of GSI identifiers is an integral part of the system.

Eqalis is one of the first companies to be licensed for research, production, processing and supply of cannabinoid medicines under the Misuse of Drugs (Medicinal Cannabis) Regulations 2019. It has invented QSafe to facilitate the future availability of these medicines to patients as cheaply as possible, with automation of all necessary information recording and exchange. QSafe is a temperature-controlled storage safe, connected to the New Zealand ePrescription Service (NZePS) and enabled for the scanning of products as they are moved in and out.

Eqalis is committed to helping build a medicinal cannabis industry in this country from the ground up, drawing on local and international horticultural and pharmaceutical expertise. The company's vision is "to create and produce outstanding medicinal cannabis products, and positively impact the health and lives of New Zealanders".

Based in the Bay of Plenty, it is developing formulations to treat a variety of conditions including chronic and palliative pain, epilepsy, spascity, anxiety and depression. Subject to the satisfactory completion of clinical trials, Eqalis intends to register new products with Medsafe in coming years. "It is early days in development of the full spectrum of formulations and their delivery to patients, and we believe potential therapeutic benefits are tremendous," says Elizabeth Plant, Eqalis Chief Medical Officer.

New Zealand's Medicinal Cannabis Scheme took effect from 1 April this year after legislative change in 2018. The regulations now in place make such medicines, with THC as their active ingredient, prescribable but subject to the Misuse of Drugs Act 1975 and deemed "high involvement" products under s29 of the Medicines Act 1981. They are subject to tight restrictions on access and supply. To date, New Zealand has only one registered cannabinoid medicine, the UK-manufactured Sativex for treatment of symptoms associated with multiple sclerosis. Currently pharmacies order Sativex through a wholesaler whenever a prescription is received.

Ms Plant says the QSafe system will remove bureaucracy, cost and time from the prescription and supply of all cannabinoid medicines. "These are expensive medicines and patients need to have access to them as cheaply as possible."

Medsafe has already approved the concept of QSafe, subject to final audit. It has been invented by Ms Plant and her team at Eqalis. She is a former President of the New Zealand Pharmaceutical Society and has a 20 year-involvement with developing electronic medication management systems.

The QSafe system enables cannabinoid medicines to be held in community pharmacies, ready for dispensing on receipt of an e-prescription through the NZePS health information exchange. Each QSafe interfaces with the computer system in that pharmacy and enables the automatic recording of details required under section 29: Information on medicines received, held and dispensed is captured and shared, with pharmacists freed from their traditional manual tasks of updating a controlled drug register.

Each bottle of medicine will be labelled with a barcoded GSI GTIN (global trade item number) by the manufacturer, this then automatically scanned on its way into and out of the safe. Internally, there is an inventory interface for real-time monitoring of QSafe contents and when products are dispensed, the pharmacy's system will automatically record this transaction against patient and prescription records.

Ms Plant says QSafe leverages the NZePS which is now available in all community pharmacies and in use by an increasing number of general practitioners. "NZePS is really critical to the efficient operation of QSafe and since the COVID-19 lockdown in March, we have all seen a rapid increase in electronic e-prescribing by GPs which is a very good thing."

Over time, Eqalis will make QSafe increasingly available to community pharmacies for use with other controlled drugs alongside a growing range of Eqalis products.

 For more information, see [www.eqalis.co.nz](http://www.eqalis.co.nz)





# GS1 Healthcare takes stock of progress with Standards

Patient safety emerged as a driver for continued development of GS1 Standards back in 2005 – and this year, the GS1 Healthcare community is looking back at progress made around the world since then. During the 15 years, GS1 New Zealand has been actively engaged in this area of standards development and in efforts for greater standards implementation in our own Healthcare system.

GS1 Healthcare is a global network of more than 130 global GS1 members including pharmaceutical and medical device manufacturers, distributors/wholesalers, logistics & solution providers, and Healthcare administration bodies like hospitals. Healthcare Senior Vice President Ulrike Kreysa recently told SCAN that the Standards development which was necessary to meet the specific needs of the Healthcare sector across the world has now largely been completed.

The GS1 Global Trade Item Numbers (GTINs) for product identification and all other basic components of the GS1 System, have always been applicable to Healthcare in a modern economy. The work since 2005 has been to set additional, more detailed Standards for how the GS1 System should be used in Healthcare. This is in response to the need for more detailed and precise identification and description of medicines and medical devices for enhanced data sharing and traceability.

Ms Kreysa says that today GS1 Healthcare is focused mainly on Standards implementation, in medicine and device supply chains and in Healthcare systems country-by-country.

Brussels-based Ms Kreysa has visited New Zealand several times, and is very familiar with our Healthcare sector and the relatively early government interest (2007) in exploring the greater use of GS1 Standards here. “Implementation has not gone as fast as we would have liked to have seen (in New Zealand) but it does take time to make changes in Healthcare, especially in hospitals,” Ms Kreysa says. “We readily acknowledge that GS1 Standards implementation is not easy anywhere, but it provides so many benefits when achieved.”

Globally, she says, the motivation among members of the GS1 Healthcare network to see patient safety improved through Standards development and implementation is as strong in 2020 as it was in 2005.

New Zealand’s Healthcare system has seen a gradual take up of GS1 Standards, especially in context of medical products purchasing and management. District Health Boards (DHBs) and central government agencies have been moving towards the systematic use of GTINs and digitalised master data on medicines and medical devices in their procurement and inventory management activities.

In 2020, work has been underway to provide the public Healthcare system with a national product catalogue and this initially will encompass medical devices on which GS1 Standards are foundational. The new NZ Health System Catalogue will be populated by suppliers, and used by all DHBs, NZ Health Partnerships and PHARMAC for their purchasing, distribution and use of devices. In the private sector, Southern Cross Hospitals have progressed to the stage of making extensive use of the GS1 Standards in their purchasing and procurement, and of beginning to use barcode scanning to track items in some of its hospitals.

With all the foundational work undertaken in the past 15 years, GS1 is confident that New Zealand will move ahead to secure more of the advantages of standardised data in the Healthcare system from 2020 onward. Last year, the Ministry of Health took the important step of appointing its Deputy Director General – Data and Digital Shayne Hunter to the GS1 New Zealand Board.

## Global milestones over the 15 years

2006

*GS1 Global signs memorandums of understanding with two other standards development organisations (SDOs) – HL7 and ICCBBA. Eucomed position paper recommending implementation of GS1 published.*

2007

*GS1 Healthcare is formed as a global user group (HUG). In Australia, the National E-Health Transition Authority (NEHTA) commits to using GS1 Standards.*

2010

*Turkey takes a lead in launching a track and trace system for pharmaceuticals using GS1 Standards commences. United States Healthcare organisations collectively confirm their support for GLN 2010 Sunrise and GTIN 2012 Sunrise.*

2012

*In the US, GS1 becomes the first accredited UDI (unique device identification) issuing agency under the FDA’s new UDI rule. The European Union’s Falsified Medicines Directive is released.*

2014

*Healthcare GTINs in the GDSN (global data synchronisation network) break through the 1 million mark after 33% growth in one year. The UK Department of Health eProcurement strategy mandates the use of GS1 standards across the National Health Service.*

2015

*World Health Organisation declares that vaccine labelling should include a barcode that “should conform to GS1 Standards”.*

2017

*The Asia Pacific Economic Cooperation (APEC) Roadmap on supply chain integrity and drug safety is released including reference to GS1 Standards.*

2019

*In Africa, 25 Healthcare regulatory agencies from across the continent sign a “traceability call to action”. In Europe, GS1 is designated as the UDI issuing entity for the EU MDR/IVDR.*

2020

*GS1 Healthcare participates for the first time in the World Economic Forum in Davos. Today, more than 4 million Healthcare GTINs are stored and automatically updated in the GDSN.*



## Consumers are going green – and so is McPherson's

Green consumption – it's become a real thing with Kiwis. Increasingly, they demand products that don't have toxic ingredients and packaging that is compostable, recyclable or re-usable. McPherson's Consumer Products has positioned itself as a leader among companies who have joined the sustainability trend in fast-moving consumer goods (FMCG).

McPherson's in New Zealand – like its much larger Australian parent – is committed to making its wide range of personal care, beauty and household products more environmentally friendly and more acceptable to green-minded consumers. And making even greater use of GSI standards to capture and share information on products is a critical enabler in this quest.

Across both countries, and into Asia, McPherson's markets and distributes dozens of brands, including Manicare, Lady Jayne, Dr LeWinn's, A'kin, Glam by Manicare, Swisspers, Moosehead, Maseur and Multix. In Australia, the business has positioned itself at the forefront of the government and private sector moves to abolish single-use packaging and to shift the market away from products with a heavy environmental footprint.

In New Zealand, McPherson's Head of Sales, Kylie Pistorius, says the FMCG sector seems to be moving in the same direction even faster, especially since the outlawing of single-use plastic bags in supermarkets in 2018, and Kiwi consumers are changing their expectations. "There's a big consumer focus on sustainability and people are definitely willing to pay more for sustainable products even when there is a cheaper alternative on a nearby shelf."

The same is suggested in research undertaken for the Sustainable Business Council last year. A big consumer survey indicated that a big majority (87%) of Kiwis care about sustainability and for more than half, purchasing decisions at the supermarket and other big retail outlets are influenced by the specific sustainability attributes.

### Consumer information

However, the survey also highlighted "green hush" – the tendency of New Zealand businesses to bury the

information which consumers want when assessing the sustainability and environmental footprint of specific products. Kylie says McPherson's is making a big effort to support its products with more consumer information in the "green space", especially as the company expands its presence in New Zealand grocery with new ranging of Multix Greener and Recycled brands in Foodstuffs and Countdown supermarkets.

The Multix Greener range aims to make it easy to select products that perform well while having a reduced impact on the environment. Multix Greener 100% Recycled Alfoil is made from recycled material, while Multix Greener Brown Bake Paper is unbleached and chlorine free. The Greener range also covers compostable kitchen tidy bags made from corn starch, which are biodegradable and can even be eaten by garden worms. The bags are designed to encourage a diversion of food scraps from landfill, and eventual methane emissions, into composting and soil replenishment.

### GSI support

Kylie credits the GSI team for providing excellent hands-on support for McPherson's push into grocery and the associated need for comprehensive product master data that could be uploaded to GSI's National Product Catalogue, and ultimately shared with consumers. Across the Swisspers, Lady Jayne and A'Kin brands, supported by McPherson's on this side of the Tasman, there is an accelerated programme to lift data quality and availability.

She says the company has made most headway with its bag, wrap and foil products for preparing and storing food, and for rubbish disposal. These include the Multix Recycled, Greener



and ReuseMe range of products, all manufactured using recycled, compostable or re-usable materials. "There are so many products out there and a lot of confusion, which is why we focus on education on various technologies. For example, the benefits of our Recycled bags come not just from the fact that using recycled plastic reduces landfill waste but that it also reduces petroleum consumption and CO<sub>2</sub> emissions".

Kylie notes consumer queries about the level of recycled plastic being used – 80% rather than 90 or 100%. "Having reviewed many possible product formulations, we managed to strike a balance between percentage of recycled content and overall amount of resin used, while keeping the bag strong and reliable," she says. "To make a bag with a higher recycled content you have to make it much thicker and that uses much more raw material. We aim to be truly sustainable."

 For more information, see [www.mcphersons.co.nz](http://www.mcphersons.co.nz)



## GS1 supports supermarkets' drive into digital B2C

GS1 New Zealand has created invaluable digital asset repositories for use in B2C (business-to-consumer) commerce over recent years – and now, we are making those repositories even more accessible to supermarket groups Countdown and Foodstuffs for their online offerings.

Key internal systems of Countdown and Foodstuffs have been directly connected to GS1's On Pack Database and GS1's image database MediaLibrary using purpose-built APIs (Application Programming Interfaces). The APIs make any image asset or data record in the databases, or repositories, available for distribution immediately they are uploaded.

GS1 Chief Operating Officer, Richard Manaton says the databases and the APIs are part of GS1's steady evolution into support for B2C commerce – and in particular, use of the GTIN as the key identifier to then generate and validate a complete payload of consumer-facing

data for use by online websites and retailer analytics – as well as supporting the B2B activities of member companies like procurement and supply chain management.

GS1's On Pack Database holds consumer information collected from product packaging, while MediaLibrary holds high quality photographs of products (64,000 images currently available).

“The growth in the number of products in these two databases clearly demonstrates that GS1 members are appreciating that their end consumers need rich and accurate content to help purchasing decisions,” says Richard.

“The two data sets are the retailer's go-to resources for customer-facing product information in New Zealand. Our investment in APIs supports Countdown's continued improvements in its online shopping experience and the launch of Countdown's online pharmacy, as well as the rollout of online shopping across the Foodstuffs banners nationally.”



## Caroline James - putting empathy into engagement

Being inquisitive and not afraid to ask questions are just two of Caroline James' great attributes as a GS1 Customer Engagement Manager. She also brings to the role a wealth of knowledge and experience from the hardware and FMCG sectors.

Based in Auckland, Caroline looks after most of GS1's North Island members in these sectors, about 700 companies in all. “I just love my job. Going out to our members and getting to understand their products and processes ... being inquisitive and observant, and asking questions so that we are really, really helping them.”

On one recent assignment, for example, she helped a Chatham Islands' fishing company create its own system for GS1-128 barcode labelling of catch while still at sea, as the fresh product was being packed and chilled on the trawler's hold. Back at port, each pallet comes off ready

for shipment to market accompanied by all necessary data on fish type, catch location and time, and so on.

Caroline joined GS1 in September 2018, having previously been a National Contracts Manager for Foodstuffs' wholesaling business in both islands. The job involved running multi-supplier responses to huge tenders from government agencies, and accommodation, catering and healthcare providers. Over the years, Caroline's CV has come to read like a who's who of consumer products companies, names including Dominion Breweries, Black & Decker, Nestle and Mother Earth. Her roles have spanned accounts payable, customer service, key account management, sales management and marketing. Along the way, Caroline earned a marketing and communications degree from Massey University and launched her own small business ... and yes, she's also been raising a family.

At GS1, she has specialised in supporting brand owners and distributors in their most efficient use of GS1's ProductFlow for launching products to market. Often, says Caroline, members are unaware of how easy and cost effective it can be for them to simply send a physical product into GS1, and have us assemble all the master data and images required, and to thereafter upload to the National Product Catalogue in readiness for launch to all retail outlets at the right time. “My own work history has given me a lot of ability to empathise with our members' problems and to show them in very practical ways how using GS1 services can be the answer ... sometimes it's about helping people to understand and solve an issue they didn't even know they had.”

 **To connect with Caroline James, email**  
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# Aroa Biosurgery – world-leading in medical biologics and product integrity

New Zealand biotechnology is quietly on the rise. And Aroa Biosurgery is at the forefront – a world-class regenerative medicine company based on a uniquely Kiwi combination of sheep, molecular biology and entrepreneurship. Aroa develops and manufactures products that vastly improve post-operative healing in humans, using tissue taken from sheep forestomachs and applying the company's proprietary technology. Company founder Brian Ward is realising his vision to supply the world with high quality, low cost materials for tissue regeneration – all processed at Aroa's plant in Mangere, Auckland. So far, five FDA<sup>1</sup> - approved products are being supplied to 600 hospitals across America and for Aroa, that's just the beginning. The company recently raised new capital to fund growth and is now listed on the Australian Securities Exchange.



Brian Ward spoke with SCAN about Aroa's future and its technology. Since 2008, the entrepreneurial veterinary surgeon has built Aroa into a global business – and he knows the critical importance of unique identification, and complete trustworthiness in data sharing and traceability when supplying small, highly sensitive products into international supply chains.

Brian's background includes clinical practice, and management experience in medical technology businesses internationally. Before forming Aroa, he managed investments into New Zealand technology companies for the Foundation for Research Science and Technology, and was founding Chief Executive of industry organisation NZBIO. Brian is a graduate of Massey University with a Bachelor's degree in Veterinary Science, a Member of the Royal College of Veterinary Surgeons (UK), and holds a Masters degree in Business Administration (with distinction).

## © Aroa is now well established. What comes next?

We think we can build a world-leading regenerative medicine company from the great platform we've now put in place. We're already commercial in the United States with a broad portfolio of products ... we have all the capabilities you'd expect to see in a vertically-integrated med-tech business including

product development, manufacturing, and regulatory and corporate functions as well as a US-based sales team.

Of course we're not the first to produce biological materials for healing but they have tended to be incredibly expensive and so limited to a very small number of patients. We've changed the whole dynamic with an outstanding

biologic that we can produce at scale and at lower cost ... it's opening the field up for a much wider range of applications and patients.

We expect to launch a new product pretty much every year over the next three years and then to broaden the range out over time. Our strategy has two channels, one through our

<sup>1</sup> Food & Drug Administration in the US





**“Compared with other countries  
New Zealand traceability is at a  
different level, in our view.”**

**- Brian Ward**

relationship with TELA Bio<sup>2</sup> in the US who we've licenced to sell our products for breast construction and hernia repair. The other channel is our portfolio in the fields of wound and soft tissue reconstruction. Our focus overall is on producing very high-quality material that performs well and on making it more accessible to more patients.

At this stage we have regulatory access to sell in 37 countries, including the European block. We are early into selling there. Germany is going well for us and so is Austria. It's early in the process with countries in the Middle East and Asia. Here in New Zealand, we have several early-stage work streams and we employed a sales specialist to progress these late in 2019. We have a lot in front of us in the US and our share offering document estimate of \$US2.5 billion market potential in the US is conservative. Certainly we have competitors but as I see it, the performance of Aroa material is phenomenal in its own right. We are very unique in our ability to produce at

large scale and relatively low cost and we have a lot of latitude in how we commercialise our products..

**📍 How many Aroa products now in the US?**

Five commercial products to date, starting with two versions of our initial Endoform Dermal Template product for use in wound healing. We also have a product for complex hernia repair called OviTex and now in its very early commercialisation phase, there's OviTex PRS for soft tissue reconstruction, predominantly for breast reconstruction post mastectomy. More recently, we have launched Myriad, which is a soft tissue regeneration product for both dermal and implantable use. We have an application with the FDA at the moment and hoping that product will be cleared for launch early next year. Each one must be independently assessed and the time required depends on the complexity of the product and the risks around its use. We have progressed from something

that is really simple to products that are much more complex for use in high-risk procedures, so there's even more diligence in the regulatory process. A lot of our clinical work is done in the US, our products are now being used in 600 hospitals and growing.

**📍 Where did this all start for you?**

It was curiosity really. I spent time in clinical practice, and in pharma and med-tech companies. I was always intrigued about devices and life science business. I could see that this field was exciting and developing. I got really curious about it and got out my old anatomy books and worked with a couple of universities. I went through this process of scoping possibilities and reducing them down to something that looked like it could be commercially viable. I'm not really a scientist but knew enough to integrate knowledge from various sources and come up with things that I thought would work.

<sup>2</sup> TELA Bio Inc is a Pennsylvania-based medical technology company specialising in the design, development and marketing of tissue reinforcement materials



**Q And is there something special about tissue from New Zealand sheep?**

There absolutely is. First, we have an abundant source and most of the raw tissue we want comes from mature sheep which have intrinsic qualities quite different from other animals. In fact our intellectual property covers all animals. We could take tissue from cows or goats but sheep make the best sense. New Zealand has a great way of farming sheep ... not intensive, the animal health status is very good and with none of the infectious diseases like CJD that other countries have, or have had. So, we can have source material that has been farmed in a way which is very natural and wholesome. This country can easily jump a lot of the regulatory hurdles that others struggle with. For one thing, we have fantastic traceability around livestock, enabling us to know

Aroa Biosurgery products are ultra-thin layers of animal tissue that have been purified and processed into a form of sterile matrix biological scaffolding. Once in or on a patient's body, they serve as an "extracellular scaffold" which supports natural healing processes: The patient's own cells migrate into the scaffold, forming new tissue and eventually replacing the animal material altogether. There are other matrix-type healing technologies that use synthetic materials or human cadaver-based tissue. But Brian Ward found nothing matches tissue from the sheep forestomach, or rumen, because of its particular structure and molecular composition. Clinical uses of Aroa products to date have meant some patients avoiding long, painful treatment of seemingly unhealable wounds and even limb amputation. Aroa launched initially with Endoform in 2013 through US healthcare products company Hollister Inc. Distribution rights in the US were bought back by Aroa in 2018.

the origins of the material we are using and have confidence in its integrity. Compared with other countries New Zealand traceability is at a different level, in our view.



Aroa takes raw material from two small abattoirs, arriving here in batches several times a week. We use a tiny fraction of what would be available. When we first started, we had our own in-house operation for isolating the tissue needed from other layers of muscle in the sheep rumen and now they (the meat companies) have dedicated rooms in their facilities to do some of that work for us.

Processing is critically important. We have a very gentle process that removes the cells and cell contents but leaves behind the biological composition of the core material, the structure of which is very important. There's a whole network of collagen fibres which are the main part, but also 151 other molecules adhering to those fibres and all of these have really important functions in healing. We do not want to damage the structure of the fibres or loose molecules. Together they are similar enough to the human body not to be antigenic, not to cause an immune response. The composition and use of Aroa products are patented but there's also lot of knowledge and intellectual property around processing of the raw materials.

**Q That is all carried out here, in Mangere?**

Yes, our large-scale operation is here. Around one third of the space is tissue processing with the other two thirds being down-stream fabrication, freeze drying and packaging. All in an extremely clean environment with the people suited and masked. Our quality control of air, people, microbial risks and so on must be top-end. We package and price depending on the product, starting with our Endroform, high-volume product that sells for around \$US110 per box of 10 pieces that will be used with diabetic and venous ulcer wounds. Products range from \$US3,000-15,000 per item, for use in hernia operations where healing in the patient's midline is a much more complex process.

On site here, we have scientists and engineers in a product development group. A lot are Kiwis who've come back from other parts of the world ... we also have people who are intrigued by New Zealand as a country for many reasons and want to bring their skills here. We have a strategy of wanting to talk with anyone who's worked in med tech around the world, pretty much as soon as they come off the plane. And we have actively recruited people from all sorts of background. We have a real mix of people, 120 here in New Zealand and 30 in the US.

**Q Big question – will you stay in New Zealand?**

Yes, from a manufacturing perspective it doesn't make any sense to be based elsewhere. We have an excellent development team here that has built up a lot of expertise, and we are only going to add to that. Over time we will have sales operations in different parts of the world. Fisher & Paykel has proven that you can develop successful global companies from New Zealand. A lot depends on investors of course as most of our capital has come from onshore so far although we are now publicly traded on the ASX. I guess things can change over time.

**Q What feedback on your technology so far?**

We've had some fantastic data on efficacy with OviTex. TELA Bio is running a 100-patient study in which





the first 20 have completed 24 months since surgery and the re-occurrence rate has been zero! Typically that rate would be 10-30% ... situations where the patient needs to re-operated on because of problems with wound healing and the surgery they require gets more complicated each time.

from us in San Diego to a national medical distributor, and from there is to a hospital. The codes will be scanned everywhere. Code verification is part of our package testing process and we have to be sure that they can be read on the equipment being used by everyone involved. Currently we are making

being transported and stored, and always arrive at the hospital in good shape. There's a lot of data around that, and really, everything in this business has to be traceable. There's an audit trail for each piece of material used in our process and we are subject to annual audit and to the prospect of random inspection where someone representing the FDA or a European notified body can walk in here tomorrow and say 'tell me about this package here'. This is the nature of our industry and that's why it takes a long time to get in. The products themselves do not need temperature control. They are shelf stable in their individual sterile pouches for 2-3 years.



**© How big a problem is COVID-19?**

Almost all our sales at this stage are in the US and from the end of March, elective procedures there were being postponed and wound centres were being closed. That had an impact on us for sure in April. Now we see them re-opening with public health measures in place. Hospitals are keen to get their elective surgery up and going, although throughput will be lower because of the all the extra procedures. I don't think we will get back to normal sales volumes before the end of the year. But obviously people will always need treatment and we do predict some sort of upswing because patients can only be delayed for a certain amount of time. Healthcare is one of those things that people and society will always spend on.

**© Each item of product is critically important at the point of clinical use. How do you ensure its identity and traceability?**

We can tell you about every batch of product, including which abattoir the core tissue came from and from which farm if we need to. All that information exists within our system or at the abattoirs. They know what days animals were received and killed. We don't have relationships with farmers ourselves but who knows in future, we certainly have a particular profile of the animal that is best for our purposes.

Every batch of shipped product has unique (GS1-based) identifiers and when a barcoded carton is shipped, we can access data on all the raw materials that went into that batch and also where the units of product are now located. Cartons are scanned by us here in Mangere and when they are being received into our distribution base in San Diego, and again thereafter depending on the product and the particular supply chain. It could go

changes to the coding on our packets for compliance with new requirements under the FDA's unique device identification (UDI) scheme,

To sell in the US, we must prove the integrity of our packaging and that it can withstand a lot of mistreatment when

**For more information, see**  
[www.aroabio.com](http://www.aroabio.com)

**Images supplied by MAS**  
[www.mas.co.nz](http://www.mas.co.nz)





# Digital twins now populating the world of online shopping

New Zealand's boom in online shopping – fuelled by COVID-19 social distancing – is now being reflected in very high demand for GS1's On Pack Data Collection service.

More than 1,000 products are going through On Pack each month, each product coming out with an online version of all the consumer facing information on its packaging. When accompanied by high quality photographs this, in effect, creates a "digital twin".

On Pack is the GS1 service for collecting in digital form all the information on a product's packaging, and then storing this newly-born digital twin where it can be used by product suppliers, retailers and shoppers in the online world.

New Zealanders have certainly embraced the latter in 2020, thanks to the March-May COVID-19 lockdown period and new online buying habits which thousands more people have obviously acquired. The most recent statistics for the nation's online shopping show the amount spent on domestic websites during June was 33.8% higher than the comparable sum for June 2019<sup>1</sup>.

GS1 launched On Pack in 2016 as a service option for GS1 members and others who are using ProductFlow to support the introduction of new products, or updating of existing products, to the consumer marketplace through Foodstuffs and Countdown, and other retailers. GS1's ProductFlow encompasses barcode verification, high quality images to retailer specifications and verification of product master data to the National Product Catalogue (NPC) from where it can be accessed at any time by the grocery groups and others.

Take-up of On Pack had been steady until this year's surge. Today, the database holds information on 40,000 products and growing – all food and grocery products with an increasing number in the health and body care categories.

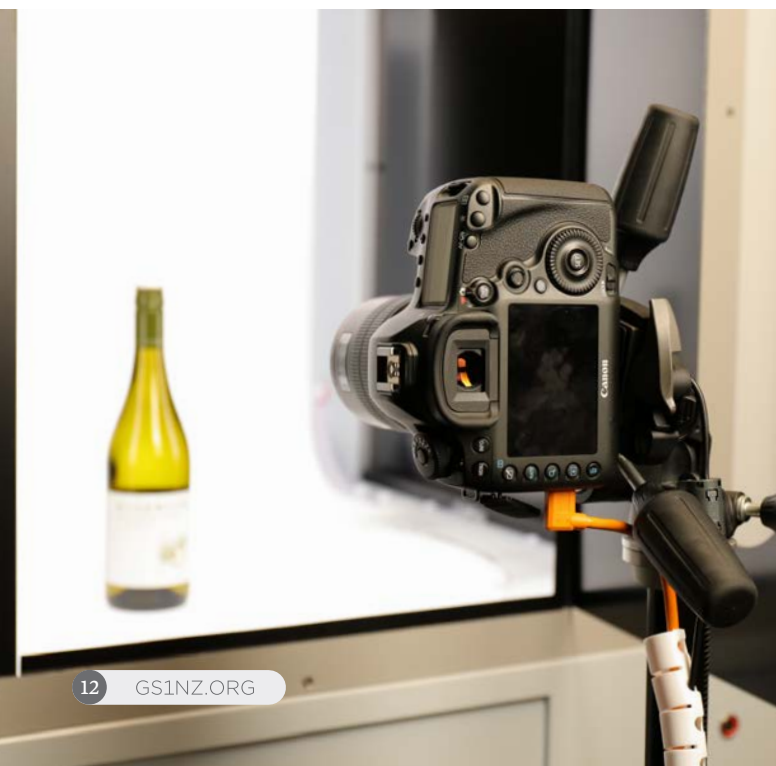
Each database entry has product data in the same format as seen on the product packaging. These include lists of ingredients, nutritional information, any allergen warnings, dosage information, marketing statements, and any claims and endorsements about the product: Each product will have any combination of such information.

GS1 makes the data available to anyone wanting to know more about a particular product through the FoodEye mobile phone app, downloadable free of charge from [www.gs1nz.org/foodeye](http://www.gs1nz.org/foodeye). FoodEye is especially useful to consumers while they are shopping (online or offline), and it includes a product barcode scanning function for ease of access to the information while in a store.

The digitised data is also sent directly to Countdown and Foodstuffs to match up with the rest of the products data in their businesses (see page 7). The data can also be migrated into the NPC for a broader range of uses online, such as marketing and retailing websites, but also for the internal processes of companies. In readiness for uploading to the NPC, the product information (ingredients lists, claims etc) will need to conform to GS1 Standard formats and this often requires some translation from the form in which the information is originally presented on the label, packet or can.

 **For more information, see**  
[www.gs1nz.org/services](http://www.gs1nz.org/services)

<sup>1</sup> "The New Zealand Online Retail sales Report", by Marketview, Verisk Financial .



## Putting spin on your product...

High quality images of your product are extremely important to any supplier or retailer wanting their business to be truly online. Now they can go further – spin the product image on screen for even greater appeal to the customer.

GS1 offers 360° photos for a more memorable, dynamic presentation of any product on a website. The product is viewed from all sides as the image literally spins on the screen and the viewer as the option of freezing on any aspect.

GS1 has invested in state-of-the-art orthographic cameras for this form of dynamic image creation – all part of what we can do to help GS1 members create and manage the digital assets that are important in the online world.

# Sweet as! Speciality honeys beyond manuka

Everyone knows manuka honey is something special. But what about avocado or pohutukawa honeys? The aptly-named Simon Sweetingham is out to convince fellow Kiwis that these, in their raw forms, can be just as exciting on the palate and potentially as health-enhancing as manuka.

Simon has recently launched four speciality honeys – avocado, pohutukawa, clover and wildflower – under his new ‘Beebro’ brand, with a strong emphasis on their natural New Zealand origins and their raw, minimally-processed form. “They’re products for health-conscious foodies ... people who love honey and are ready for some new, more edgy flavours,” says Simon.

Based in Auckland’s eastern suburbs, Simon sources his honey from beekeepers around the upper North Island, and has it packaged and labelled (mainly in glass jars) in contracted commercial kitchens with as little disturbance to its natural state as possible. No creaming, no special temperature control processes and a long (four-year) shelf life. The beautifully-represented Beebro range can be purchased online and through an expanding range of health and speciality food shops in the Auckland region. Simon is gearing up also to supply the supermarket sector (and obviously, Beebro’s GS1 membership will support that next step.



He sees the new flavours, and whatever particular health attributes they might become associated with, as additions to manuka honey – that liquid gold which has captured consumers here and around the world in recent decades. “Manuka honey is obviously wonderful ...I’m wanting to explore gaps in the market.”

In fact, Simon also sells manuka-based product under the beekeeper-owned brand, “Onuku”, which is promoted on its high UMF (unique manuka factor) rating and central North Island provenance. Beebro and its new products have grown out of a honey broking business, which Simon launched in 2017, first at the Howick Village Market. He has long since become an effective channel-to-market, including online, for Onuku and other non-manuka brands “Cold Fern” and “Bee My Honey”.

“There are a lot of struggling beekeepers out there. They need someone to bundle their honey and to market it for them,” says Simon. And he is just the entrepreneur needed! Previous careers in tour guiding around

New Zealand and consumer product sales have given Simon a detailed knowledge of the country and of retailing, and a nationwide network of friends and contacts.

“All our products are pure, natural and full of flavours from flowers that grow in beautiful parts of the country.”

And the new brand name? “Beebro just rolls off the tongue and its distinctively New Zealand where, of course, we also like to refer to good stuff as ‘sweet as’. Couldn’t be more appropriate for our great honeys.”

 For more information, see [www.beebro.co.nz](http://www.beebro.co.nz)



## Barcodes in graphic design – 2020 winners

Raise The Bar, GS1's annual barcode design competition for students at the Te Kahui Auaha campus of WelTec and Witireia polytechnics has this year been won by Gracy Veerasamy with a clever art nouveau-inspired label design for a brand of tea. Gracy's design seamlessly integrates the barcode into graphics which are colourful, dynamic and feature tea leaf shapes: The barcode looks very much part of the overall design.



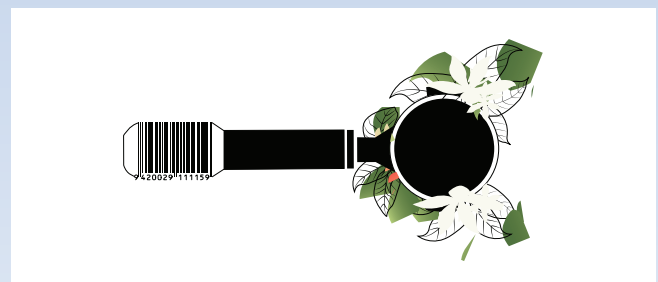
**Gracy Veerasamy - First Place**

Second prize has gone to Katherine Pei Pei for a design that merged the barcode into the visual representation of a portafilter (the part of an espresso machine that holds the grounds when coffee is being made).

The competition was introduced in 2009 to encourage design students to learn the technicalities of barcode design and how to incorporate barcodes into packaging graphics harmoniously. Students are encouraged

to see the barcode as a potential design feature rather than as a compliance requirement that clashes with the look and feel they try to achieve.

GS1 Quality Service Manager, Owen Dance has been involved with the competition since its inception. "Designers can make or break a barcode from the outset," he says. "So we launched this competition to teach them what a correct and workable barcode should look like and how they



**Katherine Pei Pei - Second Place**

can add to it in ways that will be pleasing to the eye without interfering with the scanning performance. Every year we see some wonderful ideas from the students and it's encouraging to think that the old ideas of barcodes as just black and white rectangles are slowly being overcome."





## Drinkers awake to a new brew from Morningside

Move aside craft beer, there's a new beverage on the block for people who love different flavours while they socialise. Apple cider can have all the taste, freshness and originality of craft beer, especially in the hands of a boutique cider master like Tim Shallard of Morningcider.

The Morningcider brand has taken its place on New World liquor shelves around the country in 2020 as Tim and his partners expand the cider brewing and hospitality business they launched five years ago in Auckland's inner-west area of Morningside. Cans of Morningcider proudly display the funky street art painted on buildings nearby, and of course GS1 barcodes and GTINs.

"We want to create fun and interesting flavours that people can really enjoy and talk about," says Tim. So far in 2020 there have been over 30, including some "leafy" and "smokey" flavours and other brews that have lime or chilli added (not to mention some fine classic dry and sweet ciders).

In fact, this beverage has its own "block" – the Morningside Precinct, a cluster of light industrial buildings that have been repurposed as a hospitality hub with eateries and bars to service the wider Mount Eden-Kingsland area. Tim opened his "Morningcider" there two years ago, having been one of the originators of the hub and of the neighbouring Crave Café. (Crave has become an Auckland landmark,

frequented by locals and by thousands of rugby fans on their way to Eden Park which is only a block away.)

Also, there's no big rivalry with craft beer. Tim readily admits that Morningcider is largely inspired by the joy that craft brewers have brought to beer – and he makes most of his cider using the facilities and services of Urbanaut Brewing Company, in Kingsland. It takes two weeks to brew most of the ciders, starting with braeburn and granny smith apples from the Hawkes Bay, although Tim also does some longer, barrel-fermentation in a cellar near the Morningcider. He serves a constantly-evolving range – alcohol content varies between 2.5% and 9% -- from a bar in his corner of the Precinct.

Many beer drinkers will, on occasion, happily opt for a cider which also has its own dedicated following. "We have a real mix of customers ... they include gluten-free people because cider, unlike beer, has no gluten," says Tim. "There is no stereotypical drinker ... often the toughest guy will order the sweetest cider!"

For this 28-year-old theology graduate with early work experience in food and hospitality, cider was a discovery in Washington State (USA) where he and friends stumbled across a "cool little cider bar" offering 50 different varieties. Tim brought the idea home. "A wine maker gave me some tips and we ended up with a good and easy system for making really interesting ciders."

The ideas keep coming and next year, Morningcider will include its first batch produced from apples grown in Morningside itself. In 2019 Tim bought 200 trees (mostly the vintage kingston black variety) and distributed them to customers for planting in their backyards. "We can't afford to establish our own orchard in central Auckland and this is the next best thing," he says.

So there could be a Morningcider "Drink Local Apples" brew or similar coming to a supermarket near you as Tim and partners continue growing their volume and supplying more to supermarkets as well as serving their loyal customers at the Precinct (with support from Urbanaut which contract brews and packages the complementary form of beverage).

 **For more information, see**  
[www.morningcider.co.nz](http://www.morningcider.co.nz)



# New members/rights to use holders **April 2020 – August 2020, Welcome!**

## New Members

1919 DISTILLING Ltd.	CAMPBELL FAMILY Ltd.	FITNIT Ltd.	Koller Peter	MARKETING Ltd.	RECOGNISE AND REWARD 2014 Ltd.	THE COFFEE WORKSHOP CANTERBURY Ltd.
3 MAORI BOYS Ltd.	CANYON FOOD & BREW CO Ltd.	FOOD 2.0 Ltd.	KUDOS GROUP Ltd.	NEW ZEALAND NATIONAL PHARMACEUTICAL Ltd.	RED CARPET COMMERCE Ltd.	The Distillery Co Fiji Pte Ltd
A & K WINES Ltd.	CARIBOO (2020) Ltd.	FRABELLA SOAPS Ltd.	LANACO Ltd.	NEW ZEALAND SECOND INTERNATIONAL TRADE Ltd.	Rees & Co Wines	THE GREEN GRAZER Ltd.
ABEL ODOR Ltd.	Carol McGeady	Fred Rohloff	LANDTECH CONSULTING Ltd.	NEW ZEALAND SPRING INTERNATIONAL Ltd.	REFLECTION FOODS Ltd.	THE KEFIR COMPANY Ltd.
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ADL HARDWARE (NZ) Ltd.	CELESTINE ENTERPRISES Ltd.	GET READY ROASTED Ltd.	LIEBER ENTERPRISES Ltd.	Niue Bond & Liquor Company	RUSTICA BAKERY LP	THE KIWI GOODNESS CO Ltd.
Aggregate Solutions (Fiji) Pte Ltd.	Celia MAHON-HEAP	GO SNACKS Ltd.	LOTUS INVESTMENTS Ltd.	NNK ENTERPRISE Ltd.	SAVAT LTD.	THE KOREAN DOCTOR Ltd.
AGRIHEALTH NZ Ltd.	CHEFS CHOICE FOODSERVICE Ltd.	GORGEOUS COFFEE CO. Ltd.	LOW CARB ZONE Ltd.	Nourished (NZ) Ltd.	SCHOOL ROAD PUBLISHING Ltd.	THE MIND & BODY HEALTH COMPANY Ltd.
ALGON N.Z. Ltd.	CHRISCO HAMPERS Ltd.	GRATITUDE BAGS Ltd.	MARACUJA SPRINGS Ltd.	NOURISHING BRANDS Ltd.	Scientific Research Organisation of Samoa	The Monday Food Co Pty Ltd.
ALI DAVIES Ltd.	CITIZEN HOLDINGS Ltd.	GREENERPASTURES.CO.NZ Ltd.	MARKHAM DISTRIBUTING Ltd.	NZ ALGAE INNOVATIONS Ltd.	SCOTT SEAFOOD (2017) Ltd.	THE SEPTEMBER PROJECT Ltd.
ANANDA VEGAN GOODNESS Ltd.	CLEVER KIWI INTERNATIONAL Ltd.	GROUP L ARTIST NZ Ltd.	MATAURA MUTTON PIES	NZ CLEANING SUPPLIES Ltd.	SEARCHLIGHT BREWERY Ltd.	THE VIRTUAL COOKING CO Ltd.
ANIMALS LIKE US Ltd.	COCOMANUTS LOL Ltd.	GROWING SPECTRUM NEW ZEALAND Ltd.	MAYTHORN Ltd.	NZ HEALTH TRADING Ltd.	SENZA NZ Ltd.	THEHONEYMAN Ltd.
ANJAN COMPANY Ltd.	CONSCIOUS Ltd.	HEALTHY HUMAN COMPANY Ltd.	ME TODAY NZ Ltd.	NZ HEMPRESS Ltd.	SERATO Ltd.	TITAH I Ltd.
Antony Lee BEARMAN	COPPER KNOX Ltd.	HILL IMPORTS Ltd.	MEIJI NEW ZEALAND Ltd.	NZ SOAP AND SKINCARE Ltd.	Serendib Investment Pte Ltd	TITAN GLOBAL SUPPLIES Ltd.
AOI Watch Co Ltd	CORSA HEALTH GROUP Ltd.	HILLSIDE HONEY Ltd.	METALBIRD GLOBAL Ltd.	NZ STARS Ltd.	SHEEP MILK NEW ZEALAND Ltd.	TRAPPERS Ltd.
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B AND E HONEY Ltd.	DEJA PET FOOD Ltd.	HONEYWRAP Ltd.	MORNINGCIDER Ltd.	Pamela Kay Gica GAVIOLA	SM Wright & RC Morris t/a Backyard Jem	TURNER NEW ZEALAND Ltd.
BAGSIC LINEA Ltd.	DELETE NZ Ltd.	HUTTONS HONEY Ltd.	MOTHER AND DAUGHTER Ltd.	Papasans UnLtd.	SPECIALIST RESTORATION SUPPLIES Ltd.	UNICORN WAVE Ltd.
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BAIONA Ltd.	DONALD R & CONCHITA Y TWEEDDALE	J&S DUNEDIN Ltd.	MY GROUP Ltd.	PHENOMENAL ENTERPRISES Ltd.	STO EXPRESS (NEW ZEALAND) Ltd.	UNIVERSAL LINK OF AUCKLAND Ltd.
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BAR PRO Ltd.	DREAM ECO HOLDINGS Ltd.	JAEDON ENTERPRISES Ltd.	MYPPE Ltd.	PLANTONIN Ltd.	STRONGCRETE Ltd.	VANTAGE ENTERPRISES Ltd.
BE NOURISHED 2020 Ltd.	DRINK TANK Ltd.	JAMU New Zealand	N&Z NEW ZEALAND Ltd.	PLATINUM COLLECTIVE Ltd.	SUGAR LOAF WINES Ltd.	VERTE Ltd.
Beebro	ECOCHOICE Ltd.	JBPP Ltd.	NANOLEAF LABS NEW ZEALAND Ltd.	PLAY 'N' LEARN Ltd.	SUNNIWAY INTERNATIONAL (NZ) Ltd.	VEX BRANDS Ltd.
BELL'S PEPPERONI Ltd.	ECOLAND 2020 Ltd.	JEMIMA FOODS Ltd.	NATURAL BEAUTY ELEMENTS Ltd.	POLYMER GROUP Ltd.	Surge SMC Ltd.	VISUAL HARDWARE Ltd.
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BIOLCHIM NEW ZEALAND Ltd.	END OF THE WORLD HONEY CO Ltd.	JOSEF RAKICH FITNESS Ltd.	NEAT TRUSTEE Ltd.	PRAEGRESSUS Ltd.	TAMAKI GROUP Ltd.	WAITIKIRI GARDENS Ltd.
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BUSH BLOCK HONEY EXTRACTORS Ltd.	FELDSPAR ASSOCIATES Ltd.	KIWI AS BUILDING BITS Ltd.	NEW ZEALAND MEAT	READYLAWN INDUSTRIES Ltd.		YARASU Ltd.
	FIBS Ltd.					ZALM THERAPEUTICS Ltd.



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