

# THE NEXT GENERATION OF IOT

MHD sits down with IoT leader Loic Barancourt, CEO and Co-Founder of Thinxtra, to find out more about the latest technology that is set to transform supply chains across Australia, New Zealand and Hong Kong.

Twenty years ago the term Internet of Things (IoT) was coined by a British technology pioneer named Kevin Ashton.

Kevin was working at Procter & Gamble's research and development department in Surrey, England on a project that used radio frequency and sensors on products across the supply chain to generate data about where the products were, whether they had been scanned, whether they were on a shelf or sold.

Fast-forward to today, and there are now billions of physical devices around the world connected to the internet.

According to TechJury, there are expected to be more than 64 billion IoT devices worldwide by 2025. Furthermore, IoT has the potential to generate \$5 trillion to \$15 trillion in economic value by 2025 and the main revenue driver for 54 per cent of IoT projects is cost savings.

While IoT is revolutionising the way that we connect with and utilise technology, Loic Barancourt, CEO and Co-Founder of IoT Telco Thinxtra, says this technology is not just about the smart watch or the smart fridge.

"The perception of IoT is that it's consumer play – the smart watch, the smart goods in the home. But this technology is revolutionising so many industries," he says.

Loic is a pioneer and leader of IoT technology and is on a mission to solve operational inefficiencies and sustainability challenges with this technology.

After leading some of Australia's first strategic IoT initiatives in the utilities, health and transport sectors at NetComm Wireless and Sagemcom, Loic discovered first-hand that in order to improve business on a large-scale, the market needed a next generation of

IoT connectivity that the existing Telcos were not equipped to service properly.

In 2015, Loic co-founded Thinxtra. "We founded Thinxtra with the view to becoming the IoT Telco. Our mission is to bring the next generation of IoT network infrastructure to Australia to enable businesses to connect their assets and become more efficient by making them work smarter," he says.

Working with its international partner Sigfox, Thinxtra deployed and owns the Sigfox 0G Network covering Australia, New Zealand, Hong Kong and Macau.

Compared to the more commonly known 3G, 4G or 5G networks, the Thinxtra 0G Network offers a much more cost-effective way to track assets. "In the industrial world, IoT and 5G are associated a bit too much. Of course, you can do smart things with 5G – facial recognition through CCTV, remote surgery, real-time drone control etc. But 0G is more about small data and tracking assets cost-effectively," Loic says.

Thinxtra's 0G Network, dedicated to IoT applications, presents a major opportunity for those in the supply chain.

"The opportunity that this kind of low-cost, low-power connectivity brings to the supply chain is helping to improve visibility and control to supply chain managers and operations managers who would benefit from knowing more about what is going on with their assets in the field. Basically, it's about making assets such as roll-cages, IBCs, ULDs, kegs, or even pallets work harder and smarter in your supply chain," Loic says.

## LESS IS MORE

Visibility and control are two of the main aims in supply chain management

and Loic says in order to get there with technology, the first step is to think about what you really need to measure and understand.

"If you want to know that at 8am at any given depot you have 15 roll cages available so you can process and deliver all the parcels you need to in your network that day, then you only need to use small data that is extracted from your roll cages maybe once or twice a day," he says.

This approach is very different to the big data approach, when you need to know where everything is at any given time.

"What you really need to make better decisions in your supply chain can be captured in only a couple of messages a day from your assets," Loic says.

When you break the technology down to what is really needed, it becomes a very cost-effective solution and with some assets in the supply chain costing as little as \$200, it's important that any tracking technology is cost-effective.

"With our 0G Network, we have totally disrupted this space in terms of price point. If you think small data, you can really make the business case stack up," Loic says.

A recent global example of this technology delivering transparency and efficiency gains can be seen with a 0G-enabled tracking project deployed by DHL, one of the world's largest logistics providers.

More locally, a partnership between Loscam and Active Supply Chains Asia Pacific (ASCAP) is revolutionising the high-value packaging rental market with a track and trace solution.

"The Loscam and ASCAP stories are inspiring examples of how industrial IoT can transform logistics. In our region, Thinxtra is working with many customers using IoT to improve supply



Loic Barancourt is CEO and Co-Founder of Thinxtra.

chain resilience with fit-for-purpose, scalable solutions offering near real time visibility to control assets and make them work harder," Loic says.

The tracking devices that are attached to assets and connected to the 0G Network, bring things alive and transmit information about location or conditions such as temperature, humidity or shock. This information is usually only required two or three times a day, which means that the battery in these tracking devices lasts up to seven years, in line with the lifecycle of, for example, a roll cage.

This creates a 'set and forget' situation where operations can just keep running without the need to maintain the tracking devices or the network. The relevant data just keeps coming for the life of the asset.

"Supply chain organisations can now know where all their returnable packaging solutions or assets are, every day with a business case that stacks up. It's simple. It's IoT at work.

This is a great example of how small data can deliver big things," Loic says.

Knowing where assets are not only decreases loss rates, but it also enables a much more efficient operation and better asset utilisation.

"If you don't have the right container at the right place at the right time, it will disrupt your operations and impact the bottom line," Loic says.

Once these opportunities for efficiencies and a reduction in loss starts to come together, the business case for IoT stacks up.

"If you simplify the approach and use small volumes of valuable data, it becomes very economical to enhance visibility and better monitor and control your assets. You remove friction across the supply chain, you no longer need to pick up the phone to find your lost assets such as IBCs or stillages, you know where they are," Loic says.

As supply chains are put under more

pressure, visibility and control will be crucial to better service customers. "You don't need to send team members out with a clip board to count and find out where your assets are. You can do it all remotely and better utilise the workforce you have," he adds.

Loic is excited about the fact that large scale industrial IoT adoption is growing rapidly in Australia. "We are past the 'early adopter' phase and are now working with many 'fast followers' to make sure they don't miss out on this next generation of efficiencies. 0G connectivity in the supply chain is becoming mainstream. We will soon reach a stage where operations managers who have assets out in the field and who don't know where they are nor how they are doing becomes the exception," he says.

Thinxtra's approach is technology agnostic – they offer connectivity solutions from 0G to 5G – depending on their clients' needs. But in the supply chain – for non-powered distributed assets that need to ping less than 10 times a day, nine times out of 10, 0G is the right fit.

"With 0G, you sacrifice bandwidth to get a very long range and a very long battery life for your trackers. It doesn't take much energy to send a message on the 0G Network so you can get a battery life of six to seven years, as opposed to a few months to a maximum of 3 years battery life on the 3G/4G networks with the same small batteries," Loic adds.

## BEYOND RFID

The supply chain industry is today very familiar with RFID technology, and this has largely been used to track assets that are low-cost. However, Loic says while RFID can create efficiencies, it relies on someone physically scanning the assets or assets going through a gate and will only give you information at the time of scanning. That leaves a lot of blind spots.

"The difference between RFID and IoT is that with IoT your supply chain can become scanless and frictionless. You do not need to rely on a person scanning the assets properly, IoT data is accessible remotely and just automatically communicates as many times a day as you want it to," he says. ■



Left to right: Caine Groves, Operations GM at ASCAP; Michael Winter, Customer Solutions Manager at Loscam; Daniel Bunnett, Executive Vice President - Australia and New Zealand at Loscam and Craig Stanford, Director at ASCAP.

# A GAME-CHANGER FOR EVERY STEP IN THE SUPPLY CHAIN

After a decade of trialling expensive, complex and inefficient track and trace solutions, leading Asia-Pacific pallet and returnable packaging solutions service provider Loscam has deployed Thinxtra's IoT solution. *MHD* talks to the parties involved in the project to find out more.

Loscam's track and trace journey started more than 10 years ago. "We have a large volume of high value assets in our supply chain supporting a broad customer base with an extensive product range. We therefore knew that being able to track and trace these would present all parties with some significant security, cost savings and efficiency gains," Daniel Bunnett, Executive Vice President – Australia and New Zealand at Loscam says.

In addition to well-known services as a pallet hire company, Loscam also hires out high value assets including intermediate bulk containers (IBC), stillages and foldable bins for use in supply chains.

When Daniel and his team first started looking at capabilities around tracking these assets, they were underwhelmed. "The business case just wouldn't add up. The only options on the market were bulky devices with poor battery life and operating on an expensive

network such as 3G," he says.

A few years later, RFID started to take off and again Daniel considered this solution for Loscam but found that it was simply not fit for purpose. "RFID is only as good as the last scan in or out and the market needed a more real time solution for true value to be realised," he says.

Loscam operates a truly dynamic supply chain. "An average trip for our equipment can pass through five or six customers and can be out in the field for up to six months or longer. Our operations might see a pallet issued in Melbourne, Victoria and receive it back from Tully, North Queensland or even further across the Asia Pacific region," Daniel says.

When a supply chain stretches across so many locations throughout a long period of time, visibility is crucial. "You need visibility at all times, not just at the point it's been scanned," Daniel says.

After revisiting track and trace solutions more recently, Daniel was

pleased to find that the technology had moved forward.

"When we first connected with Thinxtra, we knew that the oG network was going to be a huge opportunity for us," he says.

## IOT AT WORK

Loscam is working with Active Supply Chains Asia Pacific (ASCAP), a leading-edge Australian Supply Chain Management company as one of its first clients to adopt Loscam's Track and Trace solution. This project involves the Australian East Coast transport operation for one of the world's largest automotive manufacturers. ASCAP rents Loscam's Gpak stillages on behalf of this OEM customer in order to move its spare parts and accessories across the network of dealerships in Australia.

"When we got started on this project, we noticed that our customer was using 30 per cent more units than we predicted we would need to run this operation and

we were perplexed," Craig Stanford, Director of ASCAP says.

In the first several months of running the project, Craig and his team quickly realised why extra units were being used. "Within three months of running this contract, we lost track of more than 100 units. Each unit costs \$2000, so that quickly became an alarming amount of value to lose," Craig says.

It took nearly 10 weeks to recover the assets and a lot of manpower. "We had lost assets in Brisbane, Sydney, Melbourne, Adelaide and everywhere in between. We were getting on the phone, visiting dealers, trying to track these assets down manually. Eventually we managed to get them all back in the supply chain, but it took a massive amount of work," Craig says.

After Loscam fitted the assets with Thinxtra's IoT track and trace solution, the leading automotive provider is now able to gain a significant cost saving through ASCAP being able to reduce the amount of assets on hire in the network.

"Now we have a reliable track and trace solution, we only need to run a fleet at 70 per cent of the levels we started with, and we have stopped charging our client for the extra 30 per cent. This adds up to many tens of thousands of dollars savings to our client each year," Craig says.

Caine Groves, Operations GM at ASCAP also comments on the additional costs of chasing lost assets that go largely undocumented. "Whilst we can say that the static value of the asset is \$2000, there is the additional loss of all of the extra costs of finding the assets. Our operational teams can spend a large amount of time and effort re-tracing previous locations, meeting with the network, educating the network, time out of the operations and phone calls. All of this recovery takes a lot of administrative resources as well as costs on accommodation and travel," he says.

## POSITIVE BEHAVIOURAL CHANGE

As well as the benefits of cost-savings, all parties involved in the project also commented on the positivity in the change of behaviour of many businesses across the supply chain who may have previously misplaced assets.

"There are significant advantages in renting packaging solutions which is a model adopted as best practice across

the globe. However, it does require a certain discipline in ensuring the assets are managed accordingly. If this process is neglected, our customers do have the risk of increasing equipment shortfalls that add potential cost and liabilities. These circumstances are frustrating and certainly not the kind of conversations you would ever want to have with your customers," Daniel says.

According to Craig, it took the industry about nine months to really understand that ASCAP could now pinpoint exactly where the assets were. "But once this happened, it was a positive change in the type of communication we were having with the dealerships. No one wants to have the conversation based around saying 'I think you have lost my asset'. So this new technology allows us to pinpoint exactly where the asset is, how it arrived there, and that conversation is much easier and more partnership based," Craig says.

Previously there was a lot of guesswork about where certain assets in the supply chain were. "We ran a manual in-and-out book and made many estimates. Like most of us in the supply chain services industry we never really knew where our fleet was in the network. But now with our trackers communicating three times a day exactly where they are, we can work much more efficiently and accurately," Caine says.

"The effort to track the assets manually is quite disproportionate to the return we receive for managing them on behalf of our customer, so this solution has been a real winner for all stakeholders," Craig adds.

For Craig, the asset only needs to communicate three times a day. "This level of communication suits us. It gives us the feedback we need and it will also alert us if we have any battery or location issues," he says.

All parties are very pleased with the results. Craig says if they continued to lose assets at the rate they did before, he would hate to think where they would be if they didn't have this technology.

## AN OPPORTUNITY TO GO FURTHER

For Daniel, this is just the beginning of the journey and he says while the early statistics around cost-savings and limiting losses are impressive, it's about more than just the tracking. "This is

really powerful data that can help shape business processes, reduce bottlenecks, manage delivery times, assess risk, compliance, the opportunities are endless," he says.

There are also opportunities to move forward with sustainability commitments, a strong focus for Loscam. "We feel that by having this kind of traceability and accountability of a rental fleet, we will be able to convert a lot of our customers who are hesitant to use reusable packaging," Michael Winter, Customer Solutions Manager at Loscam says.

Daniel says that Loscam has well and truly met its initial purpose of reducing loss across its high value assets, and he is excited to see IoT solutions being used across more assets in Loscam's fleet.

Working closely with their clients, Loscam continues to deploy IoT trackers that will be connected to Thinxtra's oG Network. "Loscam has been trading for nearly 80 years and this will clearly be one of the most exciting projects undertaken in our time. It takes our business to the next level and we are excited to be working with our strong and capable technology partner Thinxtra," Daniel says.

Craig also speaks highly of Loscam and its commitment to innovation. "For Loscam to come to the table with this solution is very mature. They make money whether we lose assets or not. So, for them to invest in this initiative is really a positive thing for the entire supply chain," he says.

"There are many opportunities in the supply chain around high value product and asset tracking, so being able to implement the first phase of the IoT solution in the operational environment of a customer and demonstrate efficiencies has been very rewarding. It also has let some of our team responsible for these assets sleep better at night," Caine adds.

Both Caine and Craig see real opportunities for all stakeholders and users of Loscam IBCs into the future through location transparency, increased control and better decision making.

All parties are in agreement that this is a game-changer for the industry and excited to see where this technology can provide further efficiency gains and cost-savings. ■