

LAND OF SWEEPING CHANGE: POWERING AUSTRALIAN BUSINESS TOWARDS A CONNECTED FUTURE

A research report uncovering the
gaps between supply and demand
for machine-to-machine (M2M)
communications in Australia



THE TITLE “LAND OF SWEEPING CHANGE” IS A PLAY ON WORDS OF A FAMOUS LINE WITHIN THE POEM “MY COUNTRY” WRITTEN BY AUSTRALIAN POETESS, DOROTHEA MACKELLAR OB.

“I LOVE A SUNBURNT COUNTRY,
A LAND OF SWEEPING PLAINS,
OF RAGGED MOUNTAIN RANGES,
OF DROUGHTS AND FLOODING RAINS...”

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FOREWORD



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We are in a period of rapid change as the volume of devices connected to the Internet promises to create new ways to engage customers, enable new levels of business efficiency and spur new innovation across all industry sectors.

Businesses in Australia are benefitting from machine-to-machine communications (M2M), but while M2M connectivity is growing rapidly, it is far from ubiquitous. This presents a multitude of opportunities for both the supply and the demand side of M2M communications.

In Australia, Telstra currently has more than 1.38m connected machines over our mobile network, with service numbers growing at around 30% CAGR. A serious push from telecommunications providers across product development and innovation, network investment and sales and marketing will be required to grasp the benefits offered by M2M in Australia.

Telstra offers a range of M2M solutions:

- **Core Enablement Solutions**, which include M2M platforms, connectivity services and VPNs;
- **Partner Solutions** via partners such as Navman, Securatrack, and Sendum Wireless; and
- **Integrated Solutions**, which enable bespoke M2M solution development by leveraging our broad range of partnerships with hardware providers, systems integrators and platform providers for customers.

Through our dedicated M2M sales organisation, Telstra has worked with customers such as Coca Cola Amatil (CCA) to connect 30,000 vending machines to help automate and streamline the process for managing stock levels and operations and maintenance, as well as the City of Perth, which invested in M2M technology to automate the monitoring of the performance of parking meters and to offer new cashless payment systems.

We know that M2M wireless solutions are a smarter way to manage multiple business assets in the field, enable organisations to enhance the customer experience and service to end customers, and drive new revenue business models. We also know that using real-time data on assets, places or entire production processes can help businesses improve efficiency and make better decisions. Yet, in Australia, as in the rest of the world, it is the early adopters who are benefiting most from the technology.

We wanted to know more about why other industry sectors are slower to adopt M2M, and what the telecommunications supply side can do in order to improve adoption across all industries that may benefit from it.

This report seeks to highlight the opportunities for M2M by surveying 300 senior executives, capturing data and insights from the telecommunications, manufacturing, transport, logistics and distribution, agriculture and agribusiness sectors. It delves into how M2M is currently understood and highlights the perceived opportunities and challenges of its implementation.

As the report looks at both the supply and demand sides of M2M, we can explore the differences in understanding in order to better serve the needs of businesses, and improve the way we create and communicate about our M2M offerings.

A key lesson as we continue our journey as an M2M service provider is that we need to retain our core offerings while developing a greater number of industry specific solutions to service customers' pain points. In doing so, we also need to provide key enabling capabilities and platforms to M2M service providers and systems integrators. These solutions need to contain clear methods for businesses to establish return on investment (ROI), and to also establish a range of security frameworks to suit different needs. We also take away the need to consider a wholesale offer of M2M services with the added benefit of integrated value adding vendor partners.

Land of Sweeping Change: Powering Australian Business towards a Connected Future provides some fascinating insights from leading businesses already engaging with M2M and from those considering its implementation. It explores the question: what needs to be in place for businesses to take advantage of future opportunities from M2M communications? And we believe the answers to this question will inform and empower decision making in this growing area of opportunity.

Stuart Lee

John Chambers

ABOUT THE REPORT

Land of Sweeping Change: Powering Australian Business towards a Connected Future is a report from The Economist Intelligence Unit (EIU), commissioned by Telstra. Kim Andreasson was the author and Charles Ross was the editor.

The report draws on a survey of 300 Australian executives: 100 in telecommunications and 50 each in agriculture and agribusiness; logistics and distribution; manufacturing; and transport. The survey findings were supplemented by wide-ranging desk research and interviews with executives to uncover gaps in the supply and demand for machine-to-machine communication (M2M) in Australia. The Economist Intelligence Unit bears sole responsibility for the editorial content of this report. The findings do not necessarily reflect the views of the sponsor.

Our thanks are due to the following people for their time and insights (listed alphabetically by last name):

- Simon Berman, vice president of product marketing, Jasper
- Haydn Bowbyes, managing director, IVCS Australasia
- Eric Harvey, managing director, Gilgai Farms
- Morgan Hurwitz, President for Supply Chain Solutions & CIO, Linfox
- Iynky Maheswaran, head of mobility, Macquarie Telecom
- Phillip Rollason, IT manager, Alsco
- Ken Sheridan, chief financial officer, NetComm Wireless.





01. EXECUTIVE SUMMARY

Connecting devices to a digital network can enhance productivity and reduce costs through greater efficiencies and innovations. Sensors and cameras can automatically transmit information to a computer system from which they can be accessed remotely.

GPS devices can track movements and help analyse patterns. Mobile applications (apps) allow information to be used on-the-go. In industry speak, such machine-to-machine communications (M2M) hold great promise for organisations of all sizes to enhance efficiency. M2M is often distinguished from the Internet of Things (IoT), which often includes the element of big data analytics, although the two terms are sometimes used interchangeably. Globally, it is estimated that 4.9bn “things” will be connected in 2015, and that this number will rise to 25bn by 2025¹.

Telecommunications companies are eager to help other companies with their digital transformation in an effort to boost their own fortunes. Due to fierce competition and falling technology costs, network providers look to supplement their core offering through innovation. As a result, telecommunications companies are keen to capture a slice of the M2M market by bundling their networks with hardware and software solutions that can enable digital transformation and in the process help recipients become more profitable too.

Despite the push from telecommunications companies, and widespread agreement among industry observers that M2M will grow in importance, there remains a lack of uptake. To find out why, this report assesses the landscape for M2M in Australia, in particular existing “gaps” between the view of suppliers of services and their potential customers.

Based on a survey of 300 senior Australian executives and supplemented with qualitative interviews and desk research, the key findings are as follows:

- **Australia is set to see the benefits of M2M**

As is the case globally, local industry forecasts predict rapid uptake of M2M over the next few years. The Australian operating environment is deemed as an enabler rather than an inhibitor, according to survey respondents in terms of the quality of networks and the opportunity presented by the roll-out of the National Broadband Network (NBN). Network quality is particularly relevant as almost two-thirds of Australian executives say mobility is important to realising M2M for their organisation. However, a majority of survey takers also view the NBN favourably, indicating that it can complement wireless efforts in urban areas while improving reach in rural areas.

- **Telecommunications companies are rushing for digital gold**

To supplement revenues from core network services, telecommunications companies in Australia are creating partnerships with hardware and software vendors to create integrated business solutions. Telecommunications companies interviewed for this report illustrate emerging solutions by offering packages of data plans and added-value services such as customised apps. This illustrates the capability to transform themselves from their traditional role as carriers into integrated service providers. However, this shift has not yet been fully grasped by their customers.

- **Internal challenges are creating speed bumps**

Although telecommunications companies are transforming themselves, two factors limit the speed with which they can reach customers; legacy sales teams that are used to selling data plans instead of integrated M2M solutions and the difficulty of trying to be everything to everyone.

- **Signs of success**

Uptake for M2M services to date, although growing rapidly, has been largely limited to “first movers” who are often experiencing both the challenges and benefits thereof. Anecdotal experience and survey results both show a huge demand for integrated services – the very same role that telecommunications companies aim to supply.

- **Customers remain unconvinced**

Slow uptake among industry can also be attributed to a lack of demonstrated return on investment (ROI) and a lack of targeted solutions to fit detailed requirements that vary between industries and within them. Increasing take-up of M2M solutions is difficult without clear case studies and customised products.

- **Next steps**

To improve M2M adoption in Australia more broadly, telecommunications companies must bridge three key gaps moving forward. These include the need for better communication between the demand and supply sides, focus on integrated solutions that meet specific needs, and better demonstration of business benefits.

1. <http://www.gartner.com/newsroom/id/2905717>

02. INTRODUCTION

Connecting objects to a digital network can bring new opportunities through automation and digitisation.

“Real-time access to data at any time and from anywhere will improve productivity and reduce costs. Additionally, in an M2M context, it is really the access to underlying data that resides in various silos within organisations, extracting it and presenting it in a meaningful way to transact to create both efficiency and revenue creation through connectivity is paramount,” agrees lynky Maheswaran, head of mobility at Macquarie Telecom, an Australian telecommunications provider. But to capture the potential benefits objects must be connected in the first instance.

Gartner, an IT market research company, forecasts that 4.9bn “things” will be connected in 2015, and that 25bn will be connected globally by 2025². Predictions on the value of this process have been staggering. In 2014, Cisco, an American network equipment company, forecasted that the value of the Internet of Things (IoT) – a term to describe the digitalisation of everyday objects, typically by connecting them to the Internet – would be about US\$19trn over the coming decade³.

In Australia, IoT spending in 2013 was estimated at A\$176m and expected to reach A\$1,382m by 2017, according to Frost & Sullivan, an IT market research company⁴.

The fastest growing segment within IoT is M2M, defined in this report as the devices and sensors that are connected to the Internet and can thereby interact with each other or with humans (see box 1). In Australia, the M2M market was worth A\$124m in 2013 and expected to reach A\$398.5m by 2018, according to Frost & Sullivan.

The logistics and transportation sectors often lead the way in M2M adoption given the obvious benefits of using software apps to track real-time movements of goods that can also lead to route optimisation and thus reduce costs while enhancing productivity. For example, UPS, the global shipping company, is using mobile devices and apps that can track more than 15m deliveries a day in more than 220 countries. By doing this, the company estimates it saves 59m sheets of paper every year⁵.

Powering Australian businesses towards a connected future

The global promise of M2M has manifested itself in Australia, helped by a good operating environment (see box 2). In the survey of 300 Australian executives conducted for this report, one-third (36%) say M2M will be “very important” for revenue growth in their industry three years from now with another one-half (50%) say it will be “somewhat important” (see figure 1). Three-quarters (76%) of executives also agree that M2M is likely to spur a new wave of innovation in their industry.

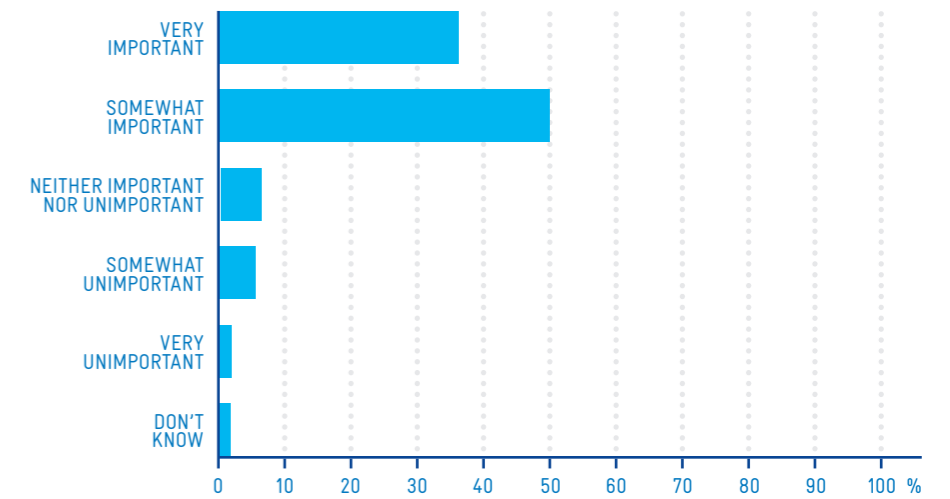
In Australia, as elsewhere, the transport and logistics sector often leads the way in M2M adoption. Linfox, the country’s largest privately owned transport and logistics company with 5,000 trucks and 23,000 people in 10 countries, has a dedicated Supply Chain Solutions (SCS) team that specialises in logistics, warehouse design, and freight planning and management. For example, in one warehouse Linfox uses M2M to lower operating costs and provide more efficient management through automated storage and retrieval systems. “It’s all about lowering costs for customers, return on investment and looking for ways to be more competitive,” says Morgan Hurwitz, President for Supply Chain Solutions and CIO, Linfox. Automation drives that competitive edge, although it requires large upfront investment and therefore long-term commitment.

But there are quick wins. Linfox also uses M2M to monitor its fleet of trucks. From state-of-the-art control rooms in Melbourne, Western Australia, Malaysia, and Thailand, it can analyse driver behaviour to improve visibility throughout supply chains and improve efficiency. The key, says Mr Hurwitz, lies in integrating the information to make better real-time decisions. If a driver is going from Sydney to Brisbane, and another in the opposite direction, the system can enable them to swap trucks in the middle, saving the need for overnight hotel accommodation and allowing drivers to be more with their families. “It’s a win-win,” says Mr Hurwitz.

IVCS is one company that specialises in M2M transport solutions by using the Lytx DriveCam Program that includes an in-vehicle camera to remotely sense monitor driving behaviour and allows for real-time feedback. This helps improve fuel efficiency, for instance by analysing breaking patterns and poor driving practices. But more importantly, it can also identify risky driving behaviour and prevent collisions accidents before they happen, leading to safer roads and in the process lower insurance premiums. In the Australian market, IVCS is so confident of the DriveCam Program that it offers a guaranteed return on investment within 12 months of installation, assuming proper procedures are followed. “We win because we offer return on investment,” says Haydn Bowbyes, managing director at IVCS Australasia. “Our customers win because they save on operating cost in a competitive industry.”

Figure 1: How important will M2M be for revenue growth in your industry three years from now?

All respondents



This report looks at the M2M opportunities in Australia as identified by telecommunications companies with a view towards the future in terms of challenges to adoption, and gaps in perception between suppliers and their potential users, in particular in logistics, transport, manufacturing, and agriculture.

BOX 01 Same meaning, different terminology

The concept of machine-to-machine communications (M2M) can appear daunting at first glance, in part because of industry jargon. In practice, however, M2M simply means using communications technology in new ways to better manage assets, further automate processes or enhance current tasks. In the survey conducted for this report, we defined M2M as “the devices and sensors that are connected to the Internet and can thereby interact with each other or with humans.” This definition captures three distinct but interrelated aspects of M2M: hardware (such as sensors and cameras), software (the applications that process the data), and the networks that allow them to communicate (fixed or mobile).

M2M is a subset of the Internet of Things (IoT) – which extends well beyond machine connectivity and includes the element of big data analytics – although the two terms are sometimes used interchangeably due to their commonalities. However, M2M is generally seen as easier to implement since it focuses on automation of processes rather than having to derive analysis from big data. Similarly, telemetry, which refers to remote data automation, is subsumed in our definition of M2M. Industry jargon varies but it all refers to the same underlying objective of using technology in new ways to enhance processes.

BOX 02 The Australian operating environment

Nearly one-half (44%) of Australian executives agree that they are better prepared for M2M than other OECD countries. In part this can be attributed to government efforts. Overall four in 10 (39%) say government regulations are an enabler for M2M as opposed to three in 10 (29%) who say they are an inhibitor. Telecommunications executives are particularly fond of current policies: almost two-thirds (62%) of them claim they are an enabler.

Recent progress regarding the NBN may have tilted opinion towards a favourable view. At the end of 2014 some 322,000 premises had an activated NBN connection, up from 210,000 only six months earlier⁶. In the survey conducted for this report, six in 10 (60%) Australian executives also say the NBN is important to realising M2M for their organisation, indicating that fixed and wireless networks are often complementary rather than competing.

At the same time, the mobile penetration rate in Australia reached 135% in mid-2014. Almost two-thirds (64%) of Australian executives in the survey also say mobility is important to realising M2M for their organisation. The quality of network connectivity is a lively discussion topic anywhere in the world. In Australia, the view is largely favourable. Nearly one-half (46%) of Australian executives in the survey say current network infrastructure is an enabler for M2M as opposed one-third (29%) who say it is an inhibitor. However, the overall view is also skewed by telecommunications executives, who are far more positive than the average executive in the survey: two-thirds (67%) of them view it as an enabler. Demand-side executives in the four industries are essentially split on the issue with those in agribusiness being the least convinced and the only group who view it more as an inhibitor (40%) than an enabler (24%).



2. <http://www.gartner.com/newsroom/id/2905717>
 3. <http://www.analysysmason.com/Documents/1/TelecomFinance227.pdf>
 4. Frost & Sullivan, Australian Machine-to-Machine (M2M) Communications Market Report, 2014
 5. <http://www.pressroom.ups.com/About+UPS/UPS+Leadership/Speeches/David+Barnes/ci.The+Logistics+Cloud.print>

6. Source: NBN Weekly Progress Report as of December 31st 2014. http://www.nbnco.com.au/corporate-information/about-nbn-co/corporate-plan/weekly-progress-report.html#_VLKrnHsuxDQ
 7. <http://www.budde.com.au/Research/Australia-Mobile-Communications-Statistics-and-Forecasts.html>

03. RUSHING FOR UNCLAIMED TERRITORY: THE VIEW FROM TELECOMMUNICATIONS COMPANIES

“M2M is in its infancy,” says Ken Sheridan, chief financial officer at NetComm Wireless, a solutions provider. “It’s equivalent to the great land grab in the western United States.” The numbers prove his point. According to industry analysts, the Australian M2M market is set to double in the next five years.

Telecommunications companies are keen to capture a share. However, network connectivity itself will account for less than 10 per cent of the market. Meanwhile, integration services will account for almost half of all M2M revenue, according to Ovum, a research company⁸. “All of us have now woken up to the fact that network providers want a bigger slice of the M2M market,” Mr Maheswaran elaborates. In the survey conducted for this report, nine in 10 telecommunications executives (88%) also agree that their own understanding of M2M has improved in the last three years.

Clear vision

The underlying network is the foundation for M2M whereas the applications that run on it are the future to revenue growth (see box 3). Therefore most telecommunications companies are creating partnerships to provide a package of solutions to customers – from hardware and software to network access and integration.

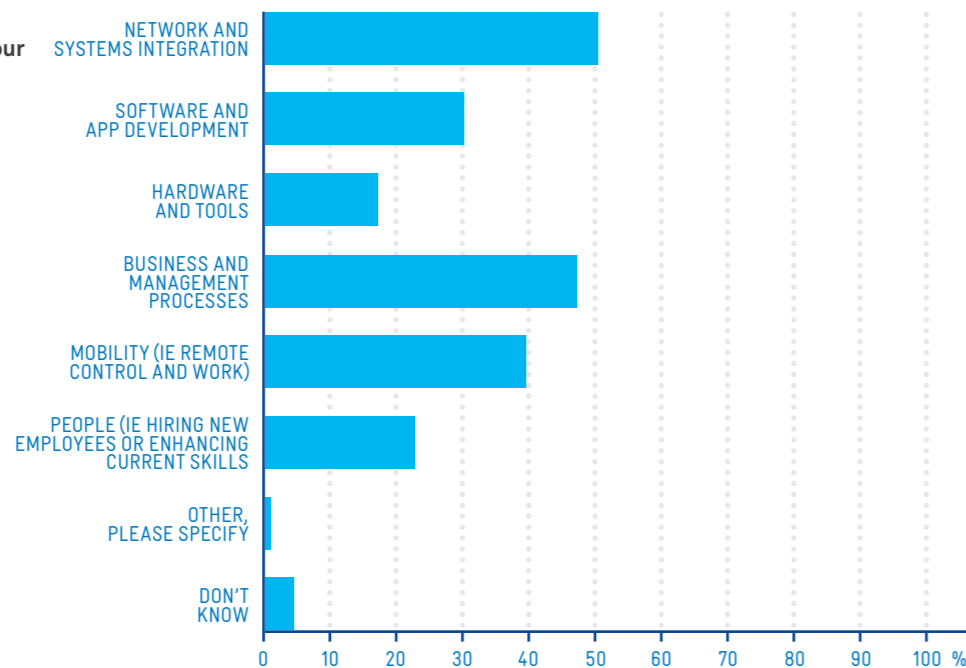
For instance, Jasper, an American-based IoT provider, partners with telecommunications operators to offer a virtual control centre, which in turn enables operators to offer their customers real-time and automated controls leading to greater efficiency and cost savings. “One of our value propositions is that we can help enterprises deploy, manage and monetise their IoT services quickly, whether they’re launching in a

single market or globally,” says Simon Berman, vice president of product marketing at Jasper, about the benefits that the company’s global mobile operator partnerships bring to enterprise customers. Macquarie Telecom and NetComm Wireless have both also established relationships with vendors to offer a wider range of solutions than they can do on their own. “In order to monetise the platform and scale it, bundling is common,” explains Mr Maheswaran.

However, potential M2M customers need more than just network coverage. In order to realise the benefits of M2M over the next three years, survey respondents in agriculture, logistics, manufacturing and transport cited network and systems integration (47%) and business and management processes (45%) as the most important aspects (see figure 2).

Figure 2: In your view, what aspects of M2M will be most important to your organisation to realise its benefits over the next three years?

Demand-side respondents



8. <http://www.theage.com.au/it-pro/business-it/machinetomachine-communication-no-longer-stuff-of-fiction-as-telcos-race-in-20140916-10h03o.html>

Despite clarity surrounding strategies and opportunities, telecommunications companies have two immediate challenges; a lasting perception of their traditional role as carriers and a legacy sales force.

In transition but lasting legacies

In the survey, one-half (53%) of all executives say the main role of telecommunications companies in providing M2M services is in their traditional capacity as network providers. This perception far outpaces other ones, such as telecommunications companies as a developer of software and apps (36%), hardware supplier of M2M tools (33%), business and management consulting services (29%), technical ICT consulting services (29%), and end to end provider (18%). But “only” 48% of telecommunication executives say they see their main role as a network provider, compared with 50% or more who say the same among the other four industries surveyed; conversely, 46% of telecommunications executives view themselves as software and app development providers whereas only about one-third of industry executives agree, on average (see figure 3). As a result, telecommunications companies face an uphill battle to be perceived as more than simply the people who provide the network. “That’s the problem, they see us as network providers but yet we are moving into consultancy with unwavering commitment to superior customer experience to be credible and create value that delivers bottom line results to our customers,” observes Mr Maheswaran.

Figure 3: In your view, what are the main roles of telecommunications providers in providing M2M services?

	Agriculture and agribusiness [50]	Logistics and distribution [50]	Manufacturing [50]	Telecoms [100]	Transport [50]	Total
Network provider	25 50%	26 52%	29 58%	48 48%	30 60%	158 52.67%
Software and app development	15 30%	20 40%	13 26%	46 46%	14 28%	108 36%
Hardware supplier of M2M tools	17 34%	17 34%	14 28%	35 35%	16 32%	99 33%
Business and management consulting services	14 28%	9 18%	18 36%	35 35%	12 24%	88 29.33%
Technical ICT consulting services	17 34%	16 32%	16 32%	28 28%	11 22%	88 29.33%
End to end provider	8 16%	10 20%	10 20%	8 8%	17 34%	53 17.67%
Other, please specify	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%
Don't know	2 4%	1 2%	0 0%	0 0%	0 0%	3 1%

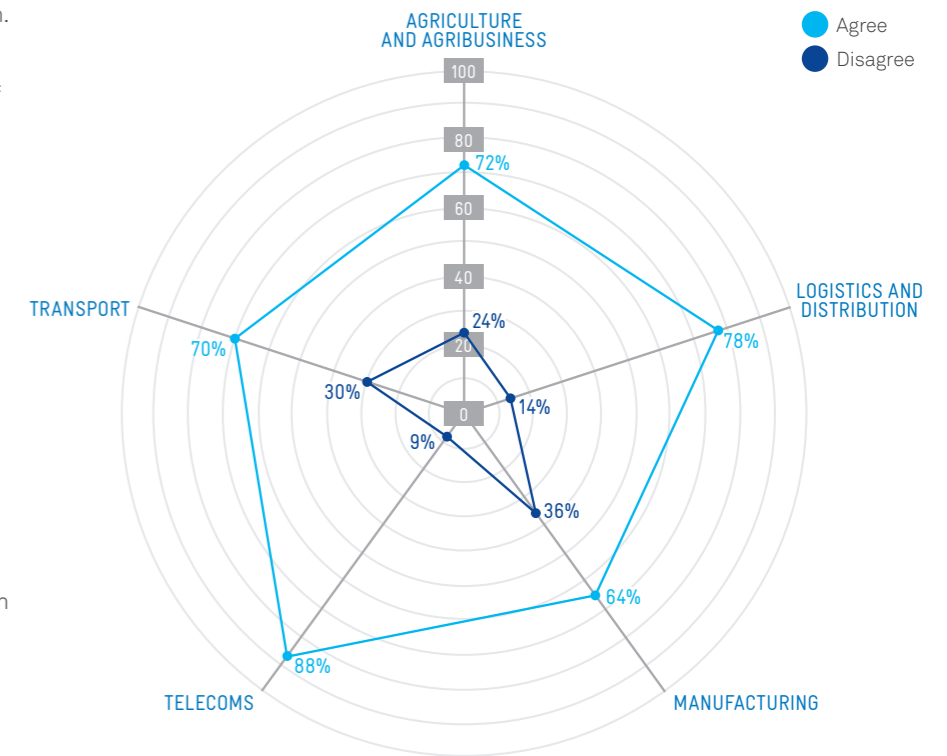


04. NO RUSH: GAPS IN SUPPLY AND DEMAND

Although M2M is growing rapidly, overall adoption remains limited in many industries despite the push from telecommunications companies and the potential organisational efficiency benefits cited by analysts.

In the survey conducted for this report, telecommunications companies also take a far rosier view of existing supply and demand for M2M services than those who are supposed to embrace them. About seven in 10 telecommunications executives cite supply and demand as enablers compared to just about one-half of all executives. The primary reasons for this gap can be attributed to the continuing challenge to demonstrate a clear return on investment (ROI) and a lack of targeted solutions.

Figure 4: Do you agree or disagree with the following statement: My own understanding of M2M has improved in the last three years



Unconvinced customers

In the survey, three-quarters (77%) of all executives say that their own understanding of M2M has improved in the last three years. "But I would not confuse awareness with detailed understanding," says Mr Sheridan.

The numbers prove the point. Telecommunications executives say their understanding has improved at a far greater rate (88%) than other executives in the survey (see figure 4). Among demand-side executives, a clear business case for ROI (43%) and support among senior management (36%) are also cited as the primary obstacles to funding M2M initiatives within organisations, indicating that there is awareness but lack of complete understanding. In part, this is due to difficulties in measuring the value of M2M, a point with which two-thirds (67%) of executives agree. "Every vertical has a different way of measuring their return on investment," explains Mr Berman. For some it is about increasing productivity but for others it could be cost savings, or any other number of combinations. Hence it is difficult to provide a one-size-fits-all illustration of the value of M2M.

Executives in the demand-side industries hope that telecommunications providers can help them demonstrate the business benefits of M2M (cited by 42%). But this is an area where telecommunications sales people struggle to keep up. "You have to understand that the traditional telecommunications sales person is good at selling plans and mobile devices, but really it's not about devices, but it is really about articulating ROI to the customer in their business context, user experience and insightful data analytics in the moment of need, anytime and anywhere," says Mr Maheswaran.

A second problem relates to legacy staffing.

Although telecommunications companies say they are better prepared for M2M than other industries in regards to their people (65% say they are prepared in this regard, compared to 43% of all respondents), there are anecdotal deficiencies as related to business development in particular.

Telecommunications companies need to recognise that the requirements of an M2M customer will be quite different from a traditional mobile or broadband one. "Telecommunications companies need to help transition their SIM sales people to be capable of offering a broad M2M business solution," agrees Mr Sheridan. Put simply, selling bundled services requires a different type of person. Globally, the EIU has found that some telecommunications companies are therefore changing incentive schemes for sales staff, an emerging trend that is also likely to take hold in Australia⁹.

BOX 03

A small recipe for large success

Telecommunications companies see the biggest revenue opportunity over the next three years coming from large (61%), urban (43%), and established businesses (29%) rather than small (13%), rural (27%) and start-up companies (26%), owing to the costs associated with customised solutions for smaller actors. But that doesn't mean small business can't put M2M to work.

Eric Harvey, the managing director of Gilgai Farms near Dubbo, New South Wales, brought his technology interest as a former software architect to agriculture. In 2010, he and his son Luke, the operations manager, decided to invest in an M2M system to monitor water levels at their cattle and sheep property. The combination of remote cameras and wireless networks now delivers the information straight to their mobile phone app.

"Peace of mind was 40% of the reason for implementing the system," says Mr Harvey. If there are any issues, such as low water levels, the system automatically sends him a SMS alert while cameras enable him to pro actively monitor various areas. The other 60% was saving them the daily two hour trip to manually inspect the farm, thus allowing them to focus on other tasks. "Instead of driving around, I can get up in the morning and switch on my mobile device to check the status," says Mr Harvey.

The set up required an A\$19,000 investment, of which Gilgai paid about half after receiving a government subsidy. Mr Harvey estimates the system paid for itself within 10 months of installation. "We're at the forefront," Mr Harvey says about using M2M in agribusiness. Although this can have obvious benefits as illustrated by the water initiative, it can also be a challenge.

But the benefits have trumped the challenges at Gilgai Farms and the business is now under way on its new M2M initiative to RFID tag their sheep. The keen interest in technology at the farm has also led Gilgai to establish an online consumer ordering service for their products¹⁰.

9. Renewed digital vigour: The Telecoms industry prepares for the future, an EIU report commissioned by Wipro, 2014.
10. <http://gilgaifarms.com.au/>

A lack of targeting

Telecommunications executives in the survey highlight logistics and distribution (58%) and manufacturing (55%) followed by transport (46%) and agriculture and agribusiness (37%) as the primary industries they aim to target for M2M solutions (see box 4). But in a world where customised solutions can make a big difference, this only scratches the surface as potential offerings must be more specific. "We initially identified 164 different verticals," says Mr Sheridan.

Within verticals, there are also sub-verticals, making it difficult to be everything to everyone. "We understand that from a solution point of view, they can't be fit for purpose as more customisation means more cost," says Phillip Rollason, the IT manager at AlSCO, a diversified manufacturer specialising in textile rental services in Australia since 1963 and a company that has recently embraced M2M. "But in the business world it has to be customised to what you're doing." He admits that AlSCO's recent mobile customer relationship management (CRM) system upgrade wasn't the cheapest but it was worth the expenditure as it met their needs and allowed sales people to spend less time in the office and more time on the ground. Information is now sent remotely using iPads supplied by the company and enables executives to track progress more effectively via an automated dashboard. Twelve months after implementation, Mr Rollason estimates the new system allows sales people to spend an additional 10-14 hours per week on the road, a significant increase in productivity.

But at Gilgai Farms Mr Harvey says cost – and in particular for small organisations such as agribusinesses – can prevent many from investing in M2M. In the survey, improved pricing is also cited by industries as the second best way that telecommunications companies can help realise the benefits of M2M (cited by 38%). As a result, NetComm strives to deliver specialist solutions that are applicable to a number of key segments. To do so, they have created a software library that can be customised relatively quickly and at low risk. Similarly, Jasper provides a cloud-based platform, which can be easily and cost-effectively self configured to meet the specific needs of any enterprise in any vertical.

But inexperience remains a major obstacle towards even cheap solutions, particularly at smaller companies. In the survey, a lack of experience with M2M is cited as the primary obstacle towards funding by one-third of respondents at very small and small companies (31% for those with revenue under US\$10m and 30% for those between US\$10m-US\$25m) compared to only 1 in 10 at large and very large companies (13% for those with revenue over US\$1bn and 10% for those between US\$500m-US\$1bn (see figure 5)).

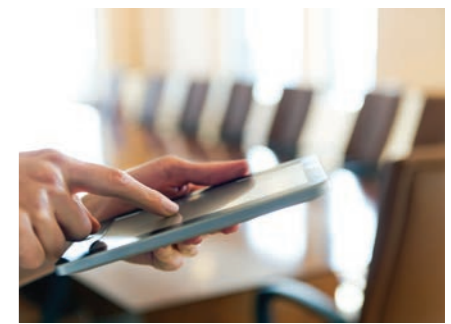
Securing digital gold

Cyber security issues have made global news headlines in recent years. Perhaps as a consequence, one-half of all executives view cyber security concerns as an inhibitor to the adoption of M2M. This finding is highlighted by the fact that two-thirds (67%) also say that cyber security is important to realising M2M for their organisation and a similar number (66%) also agree security concerns limit the full potential of M2M more broadly.

However, telecommunications executives are far less concerned. Only about one-fifth (19%) of them say it is an inhibitor to M2M.

"Cyber security is important, but it does depend on who you are and the level of threat or risk you encounter," advises Mr Sheridan. While some entities need high-end data encryption due to sensitivities, a number are well catered for with commercial grade security. At AlSCO, Mr Rollason agrees that data security is a concern. But his company has put some basic measures in place to protect itself, including data transfer security and mobile device management such as remote wipes, which he believes suffices for the type of data the organisation holds. "Customer data must be protected but we're also not a bank," he concludes.

Figure 5: Funding as an obstacle based on a lack of experience



BOX 04

Same opportunities, different takes

There is broad agreement among executives surveyed for this report regarding the importance of M2M and its challenges. But digging deeper, there are also differences of opinion between the four demand-side industries (agriculture, logistics, manufacturing, and transport), particularly in regards to just how important M2M will be and their view of the role of telecommunications companies in supporting this development.

Agriculture

In the survey conducted for this report, only about one-fifth (22%) of executives in agribusinesses say that the role of M2M will be "very important" to their revenue growth three years from now, making them the least convinced industry in the sample. Despite this, there are innovative examples of M2M adoption among agribusinesses, from wineries to cattle farms (see box 3). In particular, first-movers in the industry seem to capitalise on the ability to monitor assets remotely, thereby saving time and travel across large properties. As a result, agribusiness executives are relatively keen on telecommunications companies to be both software and app development providers (30%) and business and management consulting services (28%) compared to their peers in other industries.

Manufacturing

About one-quarter (26%) of manufacturing executives say M2M will be "very important" to revenue growth three years from now, making them the second-least convinced group among the four. This is surprising as M2M has the potential to automatically diagnose and report production problems in real-time without human input, which can lead to considerable cost savings. In Germany, the government has made "Industry 4.0", which includes M2M communication, a key component of the country's High-Tech Strategy 2020 and has set aside €200m in funding for innovative initiatives. According to a joint report by the Fraunhofer Society and the industry association BITKOM, German gross value added could be boosted by a cumulative €267bn by 2025 as a result of Industry 4.0. In the survey conducted for this report, manufacturing executives also view the role of telecommunications more as business and management consulting service provider (36%) than software and app development providers (26%).

Logistics

Among the four industries in the survey (agriculture, logistics, manufacturing, and transport), the role of M2M is deemed particularly important in logistics where nearly one-half (44%) say M2M will be "very important" to revenue growth three years from now. In part, the reason seems logical as there are practical everyday examples that people can resonate with, such as real-time monitoring of vehicles and operations that leads to greater productivity and lesser costs (as illustrated by Linfox). Executives in logistics are consequently particularly keen on viewing the role of telecommunications companies as software and app development providers (40%) in order to be able to track their goods while business and management consulting services is a far less desired role (18%), especially as compared to the other three industries in the survey.

Transport

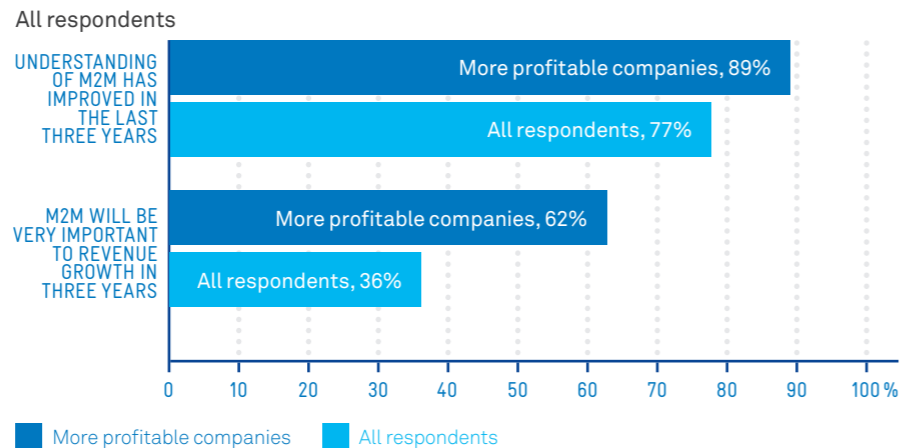
Logistics and transport often overlap in practice but in the survey they were differentiated in order to detect differences between them. Transport executives are relatively less convinced that M2M will be "very important" to revenue growth three years from now (34%). Despite the practical ability to track vehicles and monitor their operation – features that are all too familiar to anyone with a connected GPS system and which can lead to cost savings (as illustrated by UPS). This group of executives also remain relatively more ambivalent about the role of telecommunications companies. One-third (32%) of them view them as a software and app development provider whereas one-quarter (24%) see them as a business and management consulting service.

05. CONCLUSION

Reviewing the current M2M landscape shows that telecommunications companies are ready to seize the new opportunities created by this emerging market, yet actual uptake is uneven both between industries and within them.

“The biggest barrier is change,” says Mr Harvey. “Most people are afraid of change but it happens all the time.” He believes a lot of his industry peers are “on the fence” about M2M because they are looking at any potential efficiency improvement they can but are not ready to pull the trigger. “For a lot of companies there is inertia,” agrees Mr Sheridan. “You need first-movers to showcase the real value of initiatives.” Executives at companies that say they are “much stronger” in profitability compared to others are also more knowledgeable about M2M and have a stronger belief that it will be important (see also figure 6).

Figure 6: Executives at companies that say they are “much stronger” in profitability compared to others:



But being a first-mover is not easy, which may be why many companies are holding off on their M2M investments. To improve M2M adoption in Australia more broadly, telecommunications companies must bridge three key gaps moving forward: the need for better communication between the demand – and supply sides, focus on integrated solutions that meet specific needs, and create a better demonstration of business benefits.

The need for better communication between the demand and supply sides

At Gilgai Farms, Mr Harvey says he bought a Rolls Royce system only to discover he needed a Ford. To make it worse he claims a lack of knowledge amongst sales staff inhibited systems integration – illustrating both the potential opportunities for telecommunications companies as well as their legacy staffing challenges. Similarly, in the transport industry, Mr Bowbyes estimates that most companies only use about 5%-10% of GPS capabilities. “There are just not enough hours in the day to learn the system.” To resolve the situation he says there needs to be organisational buy-in from senior management all the way down to the drivers as there is currently a gap between

what is perceived as useful and what is actually used. In the long-term this will create greater trust, which will lead to higher adoption rates within companies.

The need for a focus on integrated solutions that meet specific needs

Telecommunications companies are rushing for a slice of the growing market with broad offerings while potential customers in the agriculture, logistics, manufacturing, and transport industries are looking for more customised solutions that meet their special needs and can provide a clear return on investment specifically for them. “Every customer’s needs are different,” adds Mr Hurwitz. “There are a lot of Lego pieces and you can put them together in various ways but I haven’t seen anything that’s truly end to end.” Therefore, solution providers should find a core segment and build from that. “The buzzword is convergence,” says Mr. Bowbyes. “But you can’t get the best of everything into one system.” This is one reason his company specialises in a niche that combines cameras with GPS tracking and predictive analytics in a program that helps clients better manage their fleets and helps professional drivers become safer drivers.

The need to create a better demonstration of business benefits

There remains a need to educate potential customers on the business benefits of M2M and IoT. At Jasper, efforts range from traditional marketing and direct sales engagements to thought leadership and partnerships. One particularly successful initiative is a website where pioneers describe their experiences with deploying IoT services and the effect it has had on their business. Jasper has found that executives considering IoT value the experiences of their peers. In return, those on the demand-side would be wise to pay closer attention to the transformation of telecommunications companies from whom they may be able to get more assistance across different areas than they currently imagine. “At the end of the day, IoT is not about the things – it’s about the services you can deliver via those connected things,” says Mr Berman. He advises companies not to view IoT as just another technology initiative to deploy, but instead consider the business benefits of delivering new, value-added services that unlock new revenue streams.

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Charles Ross is Senior Editor, Asia at the Economist Intelligence Unit (EIU) where he drives thought leadership management research projects for the EIU. Based in Singapore, with a focus on South-East Asia and his native Australia, he presents EIU analysis to a variety of corporate audiences and news media. Specialised in technology research, Charles has recently led projects focused on data analytics, cloud computing and the digital transformation of the telecoms industry.

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Charles studied Science at the University of Melbourne and holds a Masters in Business Administration, focusing on strategy and organisational change, from the University of Oxford.



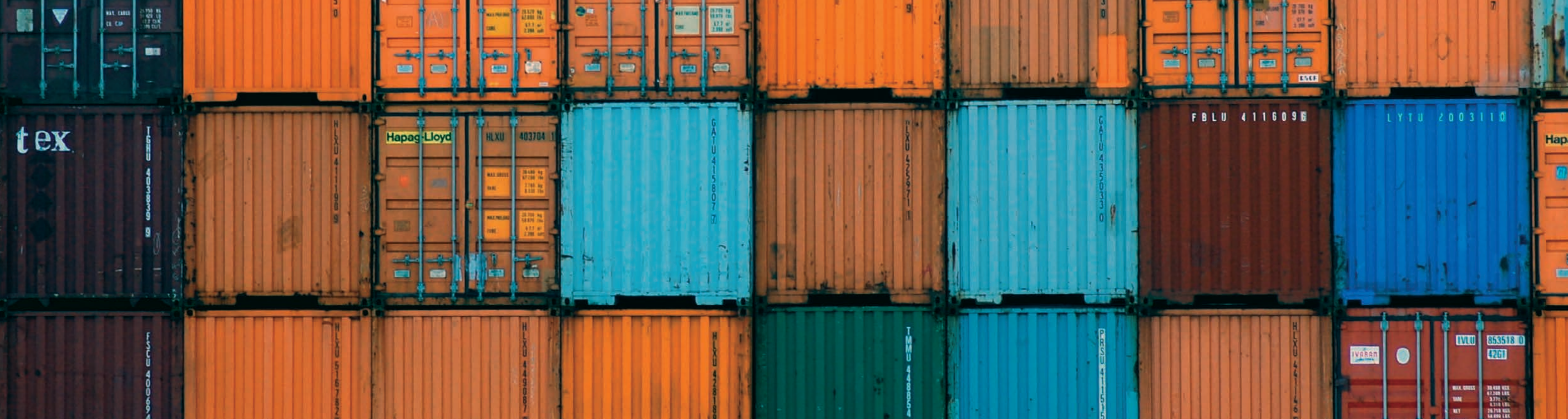
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Kim has spent more than 10 years in consulting, including as interim Associate Director and a Senior Editor at The Economist Group where he co-edited the annual report on the Digital Economy Rankings. He has also advised the United Nations since 2003, most recently in preparation for the global 2014 e-government survey, which includes measures of global connectivity.

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11. For more information, see the Titans of IoT website: <http://www.titansofiot.com/>



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We believe the more connected people are, the more opportunities they have. That's why we help create a brilliant connected future for everyone, everyday.

That's why we build technology and content solutions that are simple and easy to use.

That's why we strive to serve and know our customers better than anyone else – offering a choice of not just digital connection, but digital content as well.

And that's why we have an international presence across 15 countries.

In the 21st century, opportunity belongs to connected businesses, governments, communities and individuals.

As Australia's leading telecommunications and information services company, Telstra is proud to be helping our customers improve the ways in which they live and work through connection.

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