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2017

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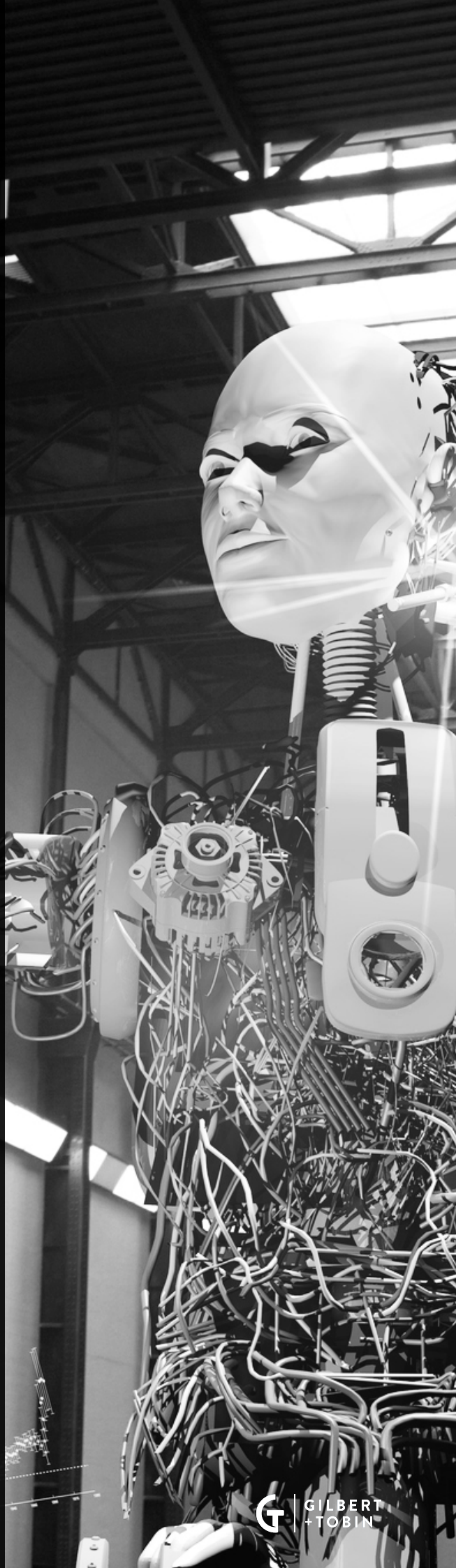

THERE IS NO DOUBT THE BUSINESS WORLD IS EVOLVING RAPIDLY, AND GILBERT + TOBIN IS COMMITTED TO DEVELOPING INNOVATIVE SOLUTIONS FOR CLIENTS AND OFFERING MUCH MORE THAN STRATEGIC LEGAL ADVICE.

The global economy is undergoing profound changes that many are calling a 'Fourth Industrial Revolution'. This technology- accelerated revolution is being driven by increased automation and connectivity and is changing the face of the financial services sector.

Business are under increasing media, political and regulatory scrutiny. The exponentially large volumes of data created by the digital world results in complex challenges for regulation and risk management in businesses.

ASIC acknowledges the key role that RegTech is playing in the financial services sector, leading to the transformation of its approach from one of compelling disclosure to digital, real time monitoring of organisations.

New RegTech solutions present significant opportunities to reduce costs across the portfolio of organisational governance, regulation and compliance while increased regulatory scrutiny requires organisations to develop sophisticated response strategies and forensic techniques. We highlight here the role that organisations officers and advisors must play both during and after the transition to digital monitoring.

Recently, Australia has also seen a proliferation of new FinTech businesses in sectors such as lending, personal finance, asset management and payments. There has also been sustained attention on blockchain and distributed ledger technology throughout the sector. The opportunities to exploit intellectual property in new products and to deploy DLT through smart contracts are highlighted in this publication.

This new world of digital disruption in banking presents enormous opportunities when harnessed in the right way. Businesses that are able to not only understand these new technologies but rather the interoperability of them will see the most benefits.

For many of our clients we are the trusted advisor and execution partner in a way that significantly transcends the role of a traditional legal partner. This publication considers some of the emerging issues in the financial services sector, including smart contracts and blockchain; intellectual property; and the implications and opportunities that emerging technology presents. These articles are a snapshot of what our market leading experts are developing and I would encourage you to contact our team to discuss how we can assist you with your regulatory, technology and fintech projects.

TALKING ABOUT A REGTECH REVOLUTION

ELIZABETH AVERY, PARTNER, COMPETITION + REGULATION

In 2016, the age of Artificial Intelligence was widely heralded as the key technology breakthrough, solving, and sometimes eliminating, the need for human capital. A good illustration of the excitement was the launch of Microsoft's "chat bot," known as Tay and described as an experiment in "conversational understanding". Tay promised a new world of thoughtful, AI-based conversations, based on Tay's ability to artificially learn from its inputs – the more you chat, the smarter it gets. But within 24 hours Tay was spouting racist, mysogynist garbage. Tay was corrupted by a group of tech geeks tweeting comments to Tay, which Tay learned quickly to parrot back.

At first blush, Tay underscores the limitations of AI. Equally, however, Tay shows the capacity to learn.

In financial services, businesses are under increasing media, political and regulatory scrutiny. The exponentially large volumes of data that the digital world creates, and which regulators increasingly require to be preserved, monitored and sometimes produced, result in some complex challenges for regulation and risk management.

In this context, RegTech, which involves harnessing technologies such as artificial intelligence applied to regulatory compliance, is widely perceived as offering a solution to these challenges. RegTech tools can be used to detect abnormal activities (e.g., trading patterns potentially resulting from insider trading and/or market manipulation, fraud, and cyber attacks) – detecting when they occur, or as close as possible to that time. Many of these events are impossible to pick up through traditional compliance measures – and as a result, some activities have often remained undetected for extended periods in the past. Each piece of the puzzle may look perfectly normal, and it is only through detecting changes in the distribution of transactions or activities over time that we can see a different pattern emerging.

Indeed, recently, ASIC Chairman Greg Medcraft, acknowledged the key role that RegTech is playing, transforming ASIC's approach to regulation, offering "the opportunity to better detect, understand and respond to misconduct," and enabling ASIC to be more proactive and pre-emptive in addressing risks that arise. Indicating that ASIC is using RegTech tools in market surveillance, investigations and enforcement, Chairman Medcraft proclaimed: "Our previous reliance on disclosure must be challenged. The future lies in mobile and digital – information needs to be transmitted in real time and be clear, concise and effective."

Nevertheless, the RegTech revolution poses many challenges.

First, while in the longer-term, RegTech solutions will likely result in significant cost savings. The sheer scale and complexity of transforming a large financial institution's data to a standardised, digital form compatible with RegTech tools, the cost of the tools themselves, and then the people with the expertise to operate them, should not be underestimated.

Second, as the story of the corruption of Tay indicates, it would be naïve to think that RegTech means that robots can replace humans to regulate financial services. It is important that human judgment continually monitors and rigorously tests RegTech tools. RegTech cannot result in an unauditable black box. Human judgment is required at every step of the way:

(1) to provide the right instructions or input;

(2) to rigorously test the algorithms and outcomes, and

(3) to modify and adapt the tools, to ensure better outcomes.

Finally, questions do arise as to how far regulators should be able to go, in terms of accessing raw corporate data and the results of an AI forensic investigation. Just like Tay, AI tools will inevitably get things wrong as they learn. Up until now, we have been heading down a path of self-assessment, with reporting by exception – and corporations have retained some level of control and judgement in relation to critical decision-making and crisis management. But the possibility of data being transmitted real time to ASIC may eliminate that possibility.

As Chairman Medcraft pointed out at the ASIC forum, "customer expectations have changed and people are more empowered than ever." The promise of RegTech is the promise of responding to and meeting those customer expectations.

HUMANS ARE NOT REPLACED, BUT THEIR ROLE AND REQUIRED SKILL SET TO ENSURE COMPLIANCE IS SIGNIFICANTLY CHANGED.

MONEY FOR NOTHING
IP IN THE FINANCIAL SERVICES SECTOR

JOHN LEE, PARTNER, INTELLECTUAL PROPERTY

For many years intellectual property (IP) was seen as the domain of creatives. In the last 20 years in particular, the dynamic has changed radically and IP is seen as a key strategic tool in almost every sector of the economy. In the technology-driven and digitally focused environment we operate in today, IP is a differentiator, revenue driver and tool for wealth creation. This is certainly true of the finance sector.

Most players in the industry have significantly increased their investment in technology, platforms and innovation. Australian FinTech investment hit a record high of $656M in 2016 [Source: KPMG International's The Pulse of Fintech]. Banks and financial services providers now recognise that a very significant proportion of their value is tied up in intangible assets underwritten by their IP.

IN 2015 ALL OF THE 10 LARGEST PATENT FILERS IN THE WORLD WERE ENTITIES OPERATING IN THE TECHNOLOGY SPACE.

CAPTURING IP VALUE WITHIN FINANCIAL SERVICES ENTITIES

The significant players in our financial services sector have recognised the need to adapt in this changing environment. Incumbency, history and a sound balance sheet can't guarantee sustainability. Any industry can be "Ubered". The response of many sophisticated players is to look to technology, innovation and differentiation to continue to thrive – IP is a core consideration.

IP protection in the technology and digital space has grown exponentially in parallel with the financial sector embracing technology and innovation. In 2015 all of the 10 largest patent filers in the world were entities operating in the technology space [See Table 1]. Many of them have a large footprint in the financial services sector through the provision of software, trading systems and platforms and communications technology.

A number of household names in the financial services arena have become significant IP holders and patent filers including VISA, MasterCard and Google. IP hotpsots include data systems, "m" commerce and cashless payments technologies. In recent years these technologies have been the subject of numerous IP actions in Australia[1].

Australia's key financial sector institutions have recognised the need to implement IP policies and strategies to protect their investments and to limit potential exposure to third party IP. Devising and implementing an appropriate strategy can be challenging, particular given the scale and breadth of some of these organisations. In addition, IP by its nature suffers from a lack of visibility and identifying it, let alone valuing it, can be challenging. Nevertheless the opportunity to create and enhance wealth through IP, in addition to the potential risks which can arise, have driven change in the sector.

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[1] *Upaid Systems Ltd v Telstra Corporation Limited FCA* No NSD 1698 of 2013; *Shopify, Inc v Enterprise Glue Pty Ltd* - VID 405 of 2015; *Encompass Corporation Pty Ltd v InfoTrack Pty* NSD 1689 of 2015

THE SIGNIFICANCE OF IP IN THE DEAL

Given the significance of IP to wealth creation and financial security, financial services entities are also increasingly focussing on IP in transactions they enter into, broker and finance.

In an increasingly crowded and "noisy" market for capital, IP backed assets that have the ability to differentiate and drive revenue are increasingly attractive to investors. Digital technologies in particular can readily be replicated and without IP underwriting the value proposition, investors can be wary of diving in. When an investment target faces competition on a global basis, investors want to understand what is going to continue to drive growth and advisors and financial underwriters are becoming increasingly IP savvy.

Australia's finance sector plays in a global world where technology has few boundaries. Our major cities are significant financial services hubs. The ability to continue to compete and excel in the space "increasingly" demands an ability to recognise and navigate IP issues and strategy.

John Lee is a partner in G+T's IP Group with a focus on commercialisation and litigation of patented technology. He is also responsible for overseeing the protection of legal technology solutions generated through the firm's innovation hub G+T<i>.

Table 1 – Leading patent filers 2015

Ranking	Entity
1	Huawei
2	Qualcomm
3	ZTE
4	Panasonic
5	Mitsubishi Electric
6	Intel
7	LM Ericsson
8	Microsoft
9	Siemens
10	Philips Electronics

Source WIPO

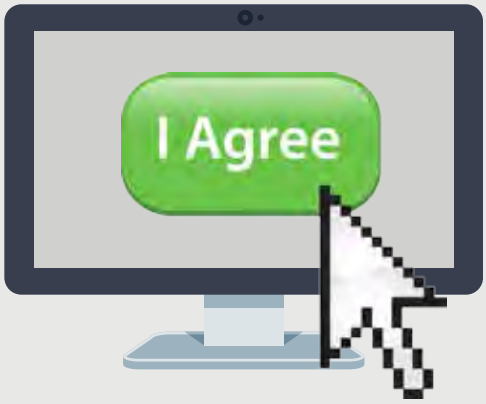
THE ABILITY TO CONTINUE TO COMPETE AND EXCEL IN THE SPACE INCREASINGLY DEMANDS AN ABILITY TO RECOGNISE AND NAVIGATE IP ISSUES AND STRATEGY.

SMART CONTRACTS:
KEY ENABLER FOR DIGITISATION OF FINANCIAL SERVICES

BERNADETTE JEW, PARTNER, TECHNOLOGY, MEDIA + TELECOMMUNICATIONS
PETER REEVES, SPECIAL COUNSEL, CORPORATE ADVISORY
GEORGE SAMMAN, CONSULTANT, SAMMANTICS

Smart contracts are going to be a key enabler for the digitisation of financial services – creating more efficient markets and reducing transaction, processing and reporting costs.

Smart contracts don't just convert commercial arrangements and legal terms into computer programs – they also generate a digital record of each "change of state" throughout the life of a contract. This provides us with a real-time digital footprint of all commercial and contractual activities generated under the contract – leading to far greater transparency, traceability and auditability of transactions. This is a key difference between smart contracts and real world traditional contracts.



HOW DO SMART CONTRACTS WORK?

At a practical level, smart contracts provide the logic on the blockchain – since the blockchain itself is just a ledger or electronic record (sometimes referred to as a "shared ledger" or "distributed ledger"). Smart contracts execute the processes required to effect changes on the blockchain ledger – and some of those processes may be based on agreed legal terms. Smart contracts can also provide the "communications layer" on the blockchain, facilitating communications with external sources of real-time data (such as real-time data from financial markets).

In this environment of trust, smart contracts become "self-executing" and "self-enforcing":

+ Participants can trust the results of this automated processing – which could never happen in a traditional environment without a central gatekeeper to manage the database.
+ The environment of "trust" on a blockchain is achieved through consensus mechanisms and hashing algorithms. Participants on a blockchain ledger can validate every row in every record on the blockchain ledger, without the need for a central validator. This makes the blockchain ledger tamper-proof – immune to risks of fraud and corruption. It also makes the blockchain ledger an ideal platform for the automated execution of contractual terms.

SMART CONTRACTS GENERATE A DIGITAL FOOTPRINT OF TRANSACTION ACTIVITIES THROUGHOUT THE LIFE-CYCLE OF THE CONTRACT.

BUSINESS BENEFITS

Smart contracts can deliver significant business benefits, particularly in the case of multi-party arrangements with multiple sources of data and complex financial calculations around cost and revenue allocations. They can deliver:

+ significant reductions in the associated operational and administration costs;
+ far greater transparency, simplicity and traceability of commercial operations and financial outcomes; and
+ significant reductions in the risk of disputes, since smart contracts can be linked to real-world source data – enabling the parties to readily verify the accuracy of the outcomes.

By way of example:

+ **Links to real-time data feeds:** Smart contracts can be linked to real-time data feeds – with automated processing based on the occurrence of pre-defined conditions. In practice, this means that a smart contract can be programmed to automatically process changes on the blockchain, based on trigger events arising from the data feeds. The data can be obtained from external databases, such as real-time data from financial markets.

  Flexibility can be built into the smart contract by requiring human intervention (eg: a signature) at certain points along the way where appropriate, eg: a human signature of approval could be required prior to the smart contract triggering enforcement / termination consequences.

+ **Reducing the risk component of pricing:** Smart contracts can significantly reduce the risk component of pricing, by enhancing the transparency and traceability (and associated value) of assets that are recorded on the blockchain (eg: financed assets or leased assets). They can record and/or process information over the life of the asset in relation to ownership, financing, maintenance, performance, spare parts, associated payment streams, asset securitisation, etc.
+ **Reducing the risk of disputes:** Links to real-time data can significantly remove the potential for contractual disputes. For example, where a financial transaction is accompanied by complex calculations in relation to revenue entitlements, then those calculations can be automated on the basis of direct links to real-time source data:
  – enhancing the quality of the source data available to process those calculations; and
  – providing greater traceability and confidence in relation to the accuracy of the calculations and financial outcomes.
+ **New opportunities for collaboration:** Smart contracts on blockchain and shared ledgers are creating a new kind of trust, enabling organisations to deal with each other directly - "peer-to-peer" - without intermediaries. This is leading to opportunities for new kinds of collaboration across the financial services ecosystem. Consortium members can collaborate and share information in ways that have not previously been viable – sharing information with each other (and with regulators) where appropriate, while at the same time restricting the "permissions" for access to confidential information.

SMART CONTRACTS DELIVER GREATER TRANSPARENCY AND TRACEABILITY - WITH OPPORTUNITIES TO ENHANCE THE VALUE OF ASSETS RECORDED ON THE BLOCKCHAIN.

SMART CONTRACTS: KEY ENABLER FOR DIGITISATION OF FINANCIAL SERVICES (CONT.)

ENSURING CONSISTENCY ACROSS THE CONTRACTUAL FRAMEWORK

Challenges arise as to how best to align smart contracts with the real-world contractual intentions of the parties – bringing an entirely fresh approach to the overall contractual framework.

+ In other words, how do we resolve inconsistencies between (i) the code in a smart contract; and (ii) the actual "real-world" intentions of the parties. The code in the smart contract may not reflect the true intentions of the parties, whether because of coding errors or inadvertent inconsistencies.

+ Just because the parties wish to leverage the benefits of converting legal terms into smart contracts, this does not mean that they should be required to live or die by the code. Smart contracts still need to be interpreted in the context of the broader, "real world" contractual agreement between the parties – although ideally, there should be systems and processes for ensuring that they are as consistent as possible from the outset. This requires:

  (i) **Transaction validity:** checking that the contract code matches the real-world contract, ie: ensuring that they are consistent, and that there are no coding errors. The parties need to agree on transaction validity through a process which involves each of them independently running the same contract code and validation logic.

  (ii) **Transaction uniqueness** – no double spend: ensuring that the inputs are valid, and that there is no duplication or double-spend. This role is generally performed by an independent third party.

+ Over the past 12 months, various technology vendors have been working on innovative and pragmatic initiatives to solve these challenges:

  – developing technical solutions for tying real world legal contracts to smart contracts through hashing; and

  – developing smart contracts which are "hashed" (enabling automated processing on the blockchain which can't be tampered with).

NEW COMMERCIAL AND CONTRACTUAL FRAMEWORK NEED TO BE DEVELOPED TO SUPPORT NEW WAYS OF TRANSACTING.

CONCLUSION

Smart contracts will enable participants in the financial services ecosystem to work together and innovate in a collaborative and agile way. In many instances, the business processes that support a financial transaction will need to be entirely reconstructed so as to work in the digital environment of blockchain and smart contracts.

The challenges are less about the new technologies – and more about the need to create coherent commercial and contractual frameworks to support these new ways of transacting. These challenges require us to create new consortium frameworks, new rules for participation and operation (as embedded in the rules engine on the blockchain), new governance frameworks and new contractual frameworks that will ensure alignment across the mix of smart contracts and real-world contractual agreements.

"GILBERT + TOBIN PROVIDES 'STANDOUT QUALITY CARE' FOR CLIENTS"

– LEGAL 500 2017

A WORLD OF EMERGING TECHNOLOGY VENDORS

SIMON BURNS, PARTNER, TECHNOLOGY, MEDIA + TELECOMMUNICATIONS

There are lots of things to think about if you look at different emerging technologies. These things are quite well documented and broadly discussed and written about:

+ privacy and confidentially management with the use of blockchain / distributed ledger technologies (DLT);
+ liability for artificial intelligence based solutions;
+ cyber security for Internet of Things (IoT);
+ risk management for cloud solutions; and
+ 'privacy by design' for big data implementations.

Looking at all these things individually is important, but what is equally important is understanding what happens when you combine all these technologies, and their respective vendors, together.

Technology is not used in silos, particularly in the new world where everything is connected. The emerging technology of DLT, AI, IoT, Cloud and Big Data together create a new stack of technologies which will all form part of critical infrastructure for many businesses. However, with this new stack of technology comes a stack of new vendors.

While many incumbents are buying up start-ups and training up their sales teams, the reality is that much of the smartest and most innovative products are found in new businesses.

This means that large corporates need to get better at engaging with immature companies and consider some changes to the old-fashioned ways of doing business.

The following are three key things to think about.

1. MANAGING VENDOR RISK WITH IMMATURE VENDORS

In a world of niche product providers, the traditional vendor due diligence may need to be updated to properly assess companies who do not have a proven track record and stable balance sheet:

+ Teams need to understand how venture capital works and what landing a large new client will do to an emerging company and its risk profile.
+ New risk frameworks and solutions to mitigate risk in other ways are required, which may include:
  - an increased focus on business continuity planning;
  - more robust escrow or similar fall-back rights (such as ensuring access to local instances of software as a back-up for SaaS solutions);
  - establishing standardised technology and data architecture to better enable fast switching between vendors and solutions – this may mean adoption of private cloud environments which closely mirror public cloud architecture;
  - closer ongoing governance of vendors and tracking of risks; and
  - ensuring the organisation has mature DevOps, Agile and change management capability which can similarly enable a quicker and more efficient switch between vendors and solutions, if the need arises.

Those able to recognise this need for change will better be able to harness the benefits that emerging vendors can offer.

2. THE SUPPLY CHAIN IS EVEN MORE COMPLEX

The days of managing a handful of key prime contractor relationships is looking like it may be on the decline.

Even in a pure IoT ecosystem, you have network providers, device manufacturers, integration providers, maintenance providers and software providers. When you connect this to a DLT, you have the DLT provider, the 'community' (if you are dealing with a protocol like Ethereum) and cloud providers too. This is a complex web to navigate.

Of course, you can still outsource systems integration and establish prime relationships, but this is becoming increasing costly as you inevitably lose control and pay a premium for it.

In this world:

+ clear contractual frameworks are increasingly important;
+ you are less likely to be able to efficiently contractually reallocate risk, so you need to find other ways to manage it – some of these are outlined in item 1 above; and
+ contract and vendor management becomes more critical as you will have more moving parts.

Touching on each of this is a theme of contractual consistency and standardisation, which will enable risk allocation, licence rights and data rights and protections to be better traced throughout the supply chain, and it will also make vendor management more efficient. Of course, standardisation becomes difficult with every additional player added to the mix – so adopting a base position which is appropriately balanced and focuses on key issues is paramount. This will also increase your speed to contract.

3. RELATIONSHIPS WITH INCUMBENTS MAY BE STRAINED

Your incumbent legacy technology provider wants to harness the benefits of emerging technology just as much as you do. They will put on the hard word – the hard sell. They will show you their roadmap.

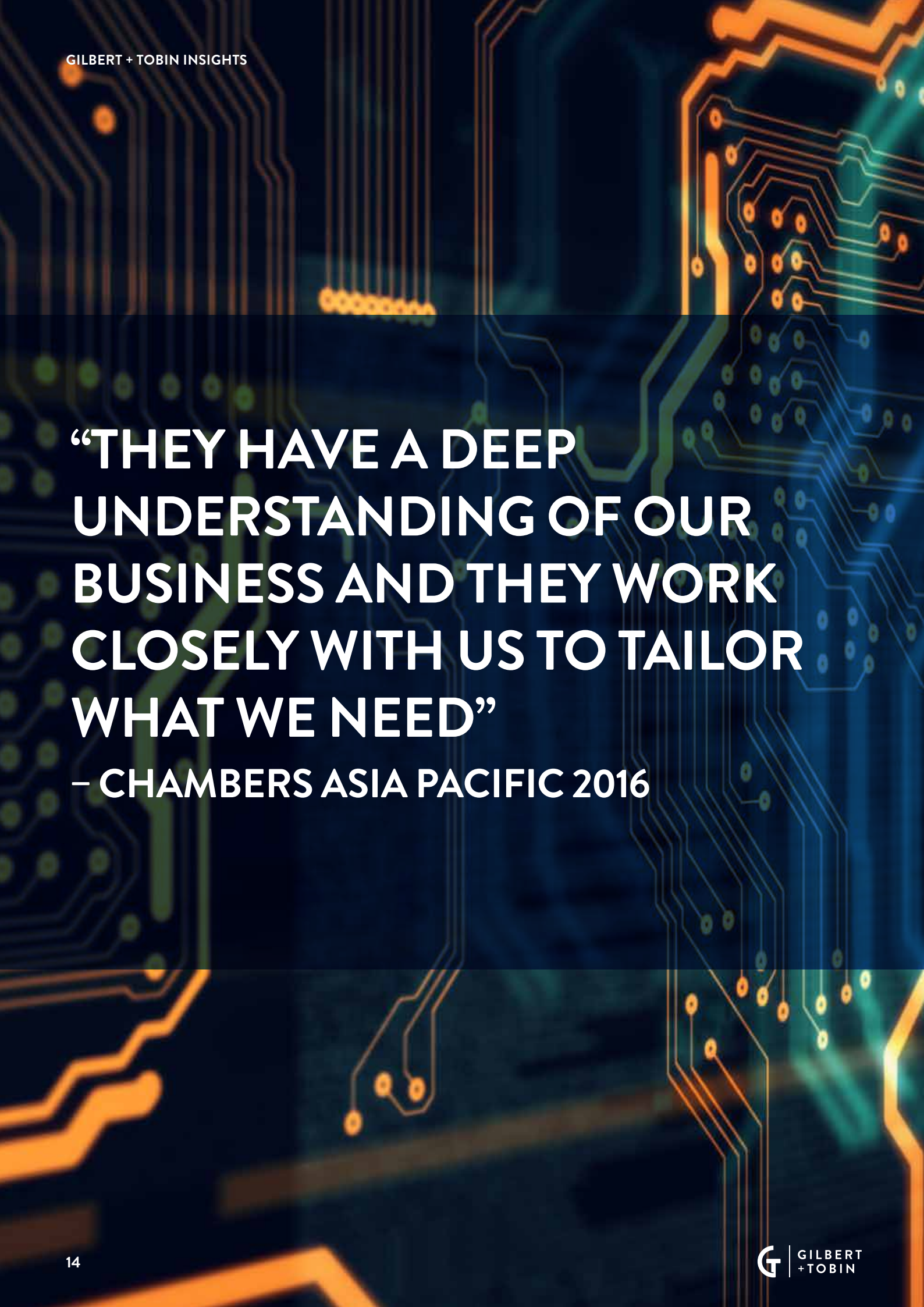
The pressure to stick with incumbents even if their solution is not the most cutting edge is significant and can often be the right choice.

If you go down that path, it's important to consider:

+ how dependant you are on a future product roadmap or future innovation which may not materialise, or may not materialise on time;
+ how to ensure continued access to the right vendor personnel – acknowledging that true experts in emerging fields are often few and far between, even in very large IT shops; and
+ as always, exit strategy and how to avoid contractual or technological lock in.

Of course, there are many other considerations when moving towards an ecosystem model of technology procurement. In all, the key is to understand the benefits, the costs and the risks. With eyes wide open and careful consideration, there are enormous opportunities for all organisations and the future is very bright.

THE PRESSURE TO STICK WITH INCUMBENTS EVEN IF THEIR SOLUTION IS NOT THE MOST CUTTING EDGE IS SIGNIFICANT AND CAN OFTEN BE THE RIGHT CHOICE.



"THEY HAVE A DEEP UNDERSTANDING OF OUR BUSINESS AND THEY WORK CLOSELY WITH US TO TAILOR WHAT WE NEED"

– CHAMBERS ASIA PACIFIC 2016

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