

STOCKBROKERS AND FINANCIAL ADVISERS CONFERENCE – 22 MAY 2019

ADDRESS BY DOMINIC STEVENS, MANAGING DIRECTOR AND CEO, ASX LIMITED

HILTON HOTEL, SYDNEY

ASX: delivering new customer opportunities with digital, data and DLT



Good morning and thank you for inviting me to speak at your conference for the third consecutive year. It's a pleasure to be with you.

The stockbrokers and financial advisers community is one of ASX's most important stakeholder groups. Many of you are our direct customers. Many of you work shoulder to shoulder with ASX on a range of projects, be they regulatory initiatives to keep the quality of our marketplace high or business innovations that seek to cut costs and improve efficiencies for you and your clients. I thank you for your partnership and support.

The significant relationship between ASX and the community in this room underpins my address today. Much of ASX's current work program involves engaging more closely with brokers and advisers, to better understand your challenges and create opportunities for future growth – your growth and ours.

That's been a theme of ASX's since our inception more than 30 years ago. Our job is to make business easier and more efficient for you. If we can achieve that, then together we will go a long way to serving the interests of those that matter most – issuers and investors.

Agenda



DLT
CHES replacement



Data
ASX DataSphere



Digital
asx.com.au

Open infrastructure solutions

- Create new products and services
- Improve operational efficiency
- Reduce risks and costs



Today, I'd like to update you on the work we're doing to deliver new opportunities to you and for the market we share. They can be largely grouped within the three Ds – digital, data and DLT, or distributed ledger technology.

Each of these goes to ASX's raison d'être of building open infrastructure solutions for the financial community that enable the industry to:

- Create new products and services
- Improve operational efficiency and
- Reduce risks and costs.

Achieving these goals will create a more vibrant and innovative industry, which will generate significant benefits for you and in turn should create opportunities for you to pass on to your customers.

The things that I highlighted in my address last year continue to resonate today:

- The rapidly growing size of Australia's savings system continues to fuel demand for contemporary and innovative financial products and services
- The acceleration in technology offers an opportunity to transform the way exchanges and financial services operate.

ASX is uniquely placed to leverage these trends to deliver benefits to the Australian marketplace.

There are challenges too, of course. Change is not without friction. We are mindful of this and cognisant of the impact on our stakeholders.

History of delivering industry efficiency and innovation

Enhancing ASX's core customer proposition through world-leading innovation

The evolution of trading and data services



Chalk boards



Electronic trading



Co-location for low latency connections



Data centre services



Cross-connections across industry



Global connectivity

The evolution of equities clearing and settlement



Share certificates



T+10 → T+5



Electronic messaging



T+3



Expanded into new products
ETFs
mFund



T+2

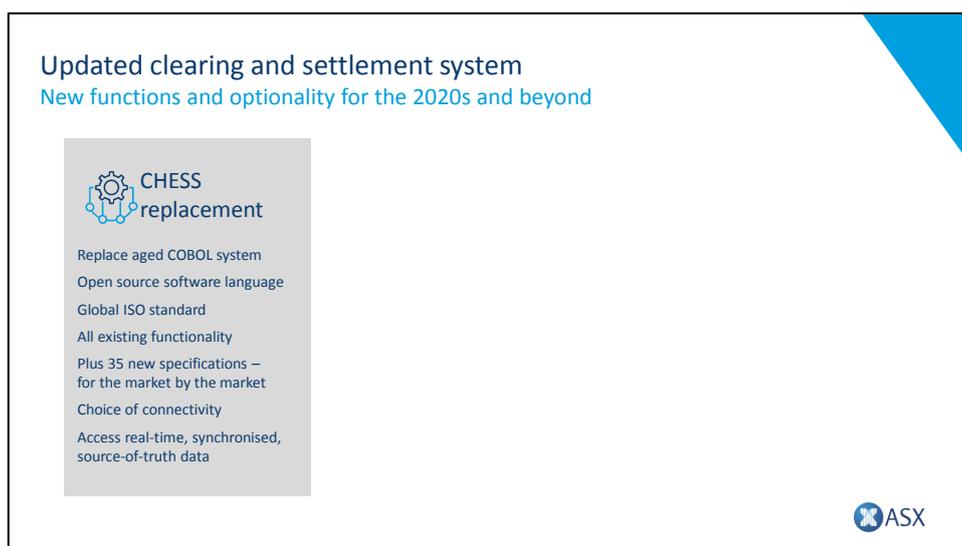


DLT-based CHES



ASX has a long and proud history of being forward-thinking and leading the exchange world. Whether closing trading floors and embracing electronic trading, removing the need for paper-based share certificates with CHES, demutualising and self-listing, or merging equities and futures exchanges, ASX is comfortable rising to a challenge. Replacing CHES with a solution based on distributed ledger technology is the latest in a continuum of taking bold action to support a vibrant, efficient and global Australian financial services industry.

Let me start with the 'D' I just mentioned – distributed ledger technology or DLT. The eyes in this room and around the world are watching us. Our progress is an important bellwether for the technology's adoption internationally.



Updated clearing and settlement system
New functions and optionality for the 2020s and beyond

CHES replacement

- Replace aged COBOL system
- Open source software language
- Global ISO standard
- All existing functionality
- Plus 35 new specifications – for the market by the market
- Choice of connectivity
- Access real-time, synchronised, source-of-truth data

ASX

It is important to be clear about CHES replacement – what it is, and what the additional DLT functionality offers.

CHES put Australia at the forefront of clearing and settlement technology globally when it was implemented in 1994, and is still performing well. However, it is not a platform for the 2020s and beyond. So CHES replacement is not an ASX indulgence or vanity project. CHES has to be replaced. It's our job to refresh and upgrade our systems. Our customers and regulators demand it. The question is: what do we replace CHES with?

ASX's CHES replacement project will replace an existing, aged COBOL system, with a system built on Java and DAML – the Digital Asset Modelling Language – which has also been chosen by the International Swaps and Derivatives Association (ISDA) to standardise the OTC derivatives world. In the long run, these standardisations make life easier for our customers.

We will replace the proprietary CHES messaging protocol (there was no other standard available at the time) and move Australia to the global ISO standard, which many market infrastructures and central banks, including the RBA, are migrating to.

We will also carry through the existing functionality of CHES to ensure that the new system can do what the old system did.

In addition, we will add 35 new functional specifications. These were requested by you, our customers, and developed over an extensive consultation period of 18-plus months with working groups representing the market.

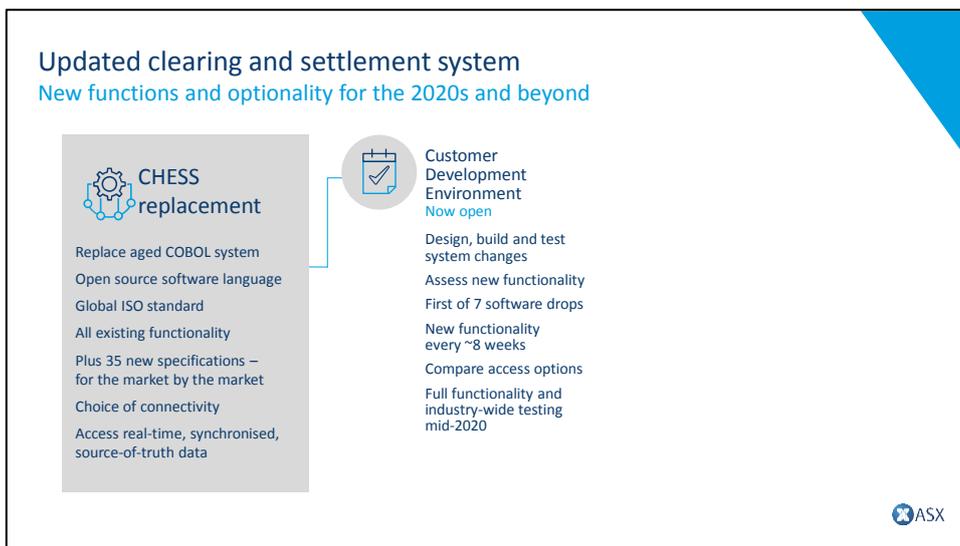
Everything mentioned so far relates to a relatively straightforward systems replacement. We do them regularly. As do other providers of financial market infrastructure. In fact, for a system to work this well for this long is testament to those who worked at ASX and in the industry in the late 1980s and early 1990s. What seemed like a bold step in 1994 – to create CHES – has delivered immense efficiencies and saved the industry millions of dollars.

And all this is before considering the option that customers have of taking a DLT node, which we believe will add significant additional value to them over time. Users will have the option to connect to:

- real-time
- synchronised
- permissioned
- source-of-truth data.

This innovation is designed to reduce costs and complexity, and facilitate new business opportunities for intermediaries, issuers, investors and other users. It's this choice – for those who choose to use it; no one will be forced to – that provides the transformative benefits.

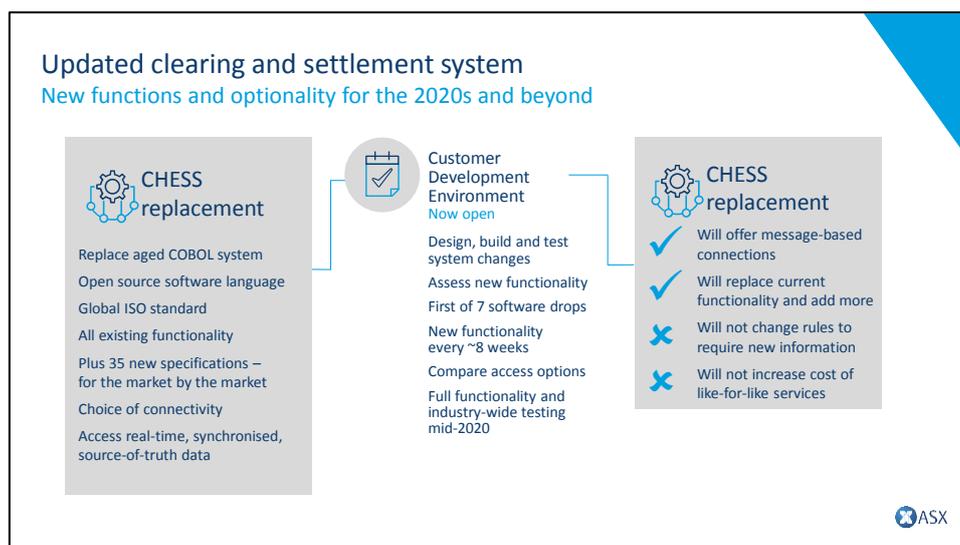
The counterfactual would be for ASX to take the easier route and build a system that did not have the immutability and synchronisation layer of distributed ledger. This would be a major missed opportunity because, as I'm sure you'd appreciate, we won't be replacing this national infrastructure again for a while.



ASX recently opened, on schedule, the Customer Development Environment – or CDE – for the new DLT-based CHES replacement. The first of seven ‘drops’ of software code has been made available for customers. Additional functionality will be released at approximately eight-week intervals, culminating in full functionality in the CDE and industry-wide testing by mid-2020.

The opening of the development environment allows customers to interact and experiment with the new system. Users can design, build and test system changes, access some of the new business functionality, and compare various access options.

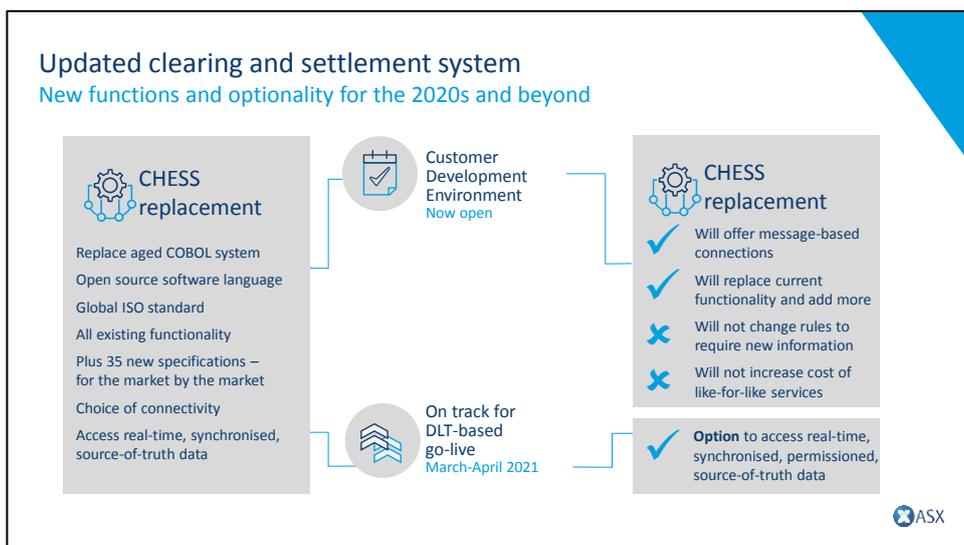
It's a significant milestone and represents the first time market participants anywhere in the world can experience the benefits of establishing direct connectivity to a real-time, synchronised, source-of-truth data via DLT.



It is worth clarifying some confusion about CHES replacement, which is largely based on the excitement associated with bitcoin and blockchain. So, let's be clear about what CHES replacement is, and is not.

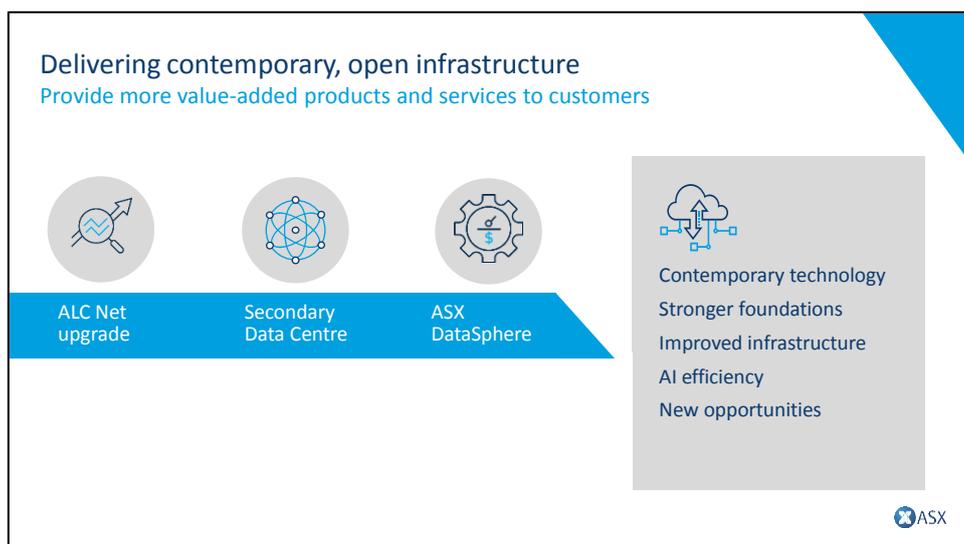
CHES replacement:

- Will offer a traditional message-based connection to the system if that is how customers want to connect – no one is forced to connect via a node if they do not want to
- Will replace all the current functions and add many more as requested by stakeholders
- Will not be changing operating rules to require parties to provide new information to the clearing and settlement system
- Will not be increasing the cost of like-for-like services that are carried through to the new system.



ASX remains on-track to go-live with the new DLT-based system in March-April 2021.

We thank the industry for joining us on the journey. There's more distance to travel but we're well on the way and continue to meet project milestones.





Let me now move onto some other initiatives in the digital and data areas.

- First, the consolidation and enhancement of the ASX Net communications network nears completion. The RBA was recently placed onto the new infrastructure, meaning connectivity to the RBA RITS payments infrastructure now runs over the upgraded ASX Net. In the next six months, connectivity to all ASX services and third parties will be rolled out, with the full project finished by September 2019.
- Second, the commissioning of a new secondary data centre continues apace. This will be completed around the end of calendar 2019. It will provide a contemporary backup to our primary site, the Australian Liquidity Centre. As a side point, in my first meeting with SAFAA after becoming CEO, this was something we had discussed together as an agreed priority.
- Third, the ASX data analytics offering, christened ASX DataSphere, is now operational. To start with, it's being deployed internally for the ASX listings and investment products business, where we are looking at listing trends, market-making statistics and the possibilities for AI-based efficiencies. We will begin talking to external customers over the next month.

Each of these initiatives continue our commitment to regularly refreshing, improving and updating the critical infrastructure ASX provides to support the market.

These investments link to the work we're doing to strengthen ASX's foundations, in areas like enterprise and technology risk management, and listings compliance, where our focus on evolving and strengthening ASX's rules and guidance framework is ongoing.

It also applies to the program of work underway to refresh the hardware and software supporting ASX's cash equity trading market. This will result in a more robust and contemporary platform, with minimal change for customers.

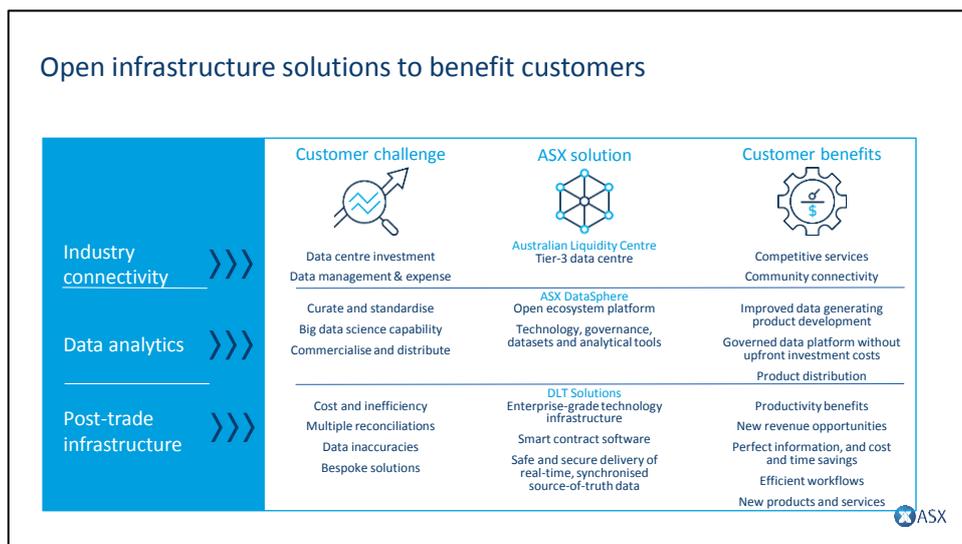
These initiatives are all significant investments by ASX to improve the foundations of our market and set up the exchange for the 2020s and beyond.

As ASX gets the foundations of a contemporary, open infrastructure in place, we can then offer more value-added products and services to our customers. This, in turn, creates more opportunities for you to run your businesses more efficiently and better serve your customers.

Let's look at an example of where we've enhanced value to customers by building a secure, trusted, resilient platform – the Australian Liquidity Centre or ALC.

In 2012, when ASX decided to upgrade its data centre:

- We could have thought – we are not a technology provider, we are a financial services company and outsourced our data centre to a third party
- Alternatively, we could have built a data centre that just serviced ASX and our co-location clients who wanted low latency connections to ASX
- Instead, we saw that Australia's financial services industry would benefit from a dedicated, high-grade data centre, which not only enabled efficient connection to ASX but also connectivity to other financial market participants independent of ASX. This is what we built. We chose to invest in a facility to serve the needs of both ASX and the marketplace.



This has enabled ASX to expand our offering to customers, help reduce connectivity complexities, and bring down the total cost of technical services for our clients. It's been achieved by thinking about 'open' infrastructure solutions that address the needs of our customers, not just our own needs.

In other words, we are not just thinking about how customers connect to ASX but how customers connect to the industry. This allows us to work together with customers to find efficiencies that lower their total cost of communications.

We see a similar opportunity with data analytics and potential AI opportunities.

Again, ASX could have gone down one of three paths:

- We could have outsourced the data analytics capability to a third party
- We could have built a data analytics capability that served our own needs only
- Or, as we've chosen to do, we could create a more extensive facility that aims to provide efficient data analytical services to customers across the financial services industry.

Our data analytics system allows customers to access ASX data, third party data procured by ASX, and bring their own data into a workspace that they control. They can then access data science tools, or buy analytics, programming languages, computing power and storage provided by ASX or third parties, more easily and affordably than trying to build the capability themselves.

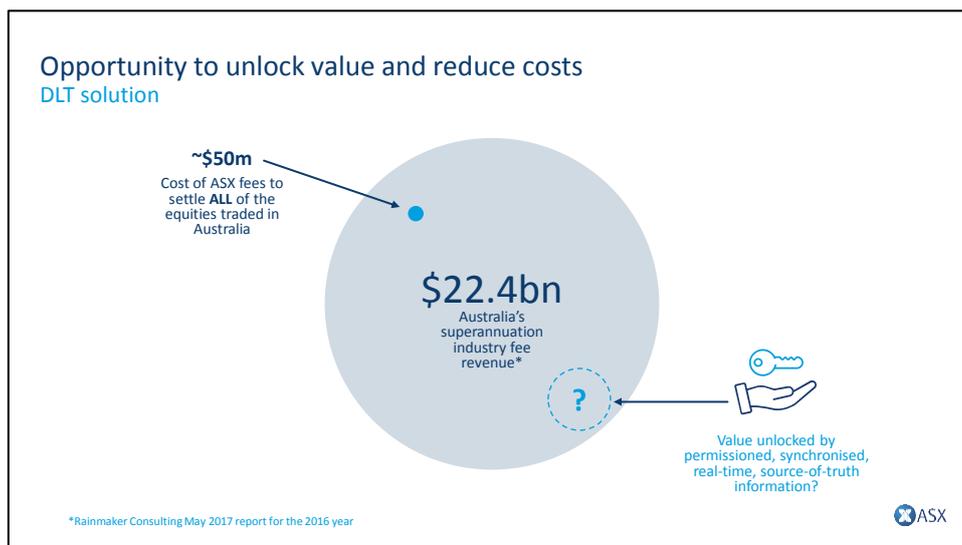
This open infrastructure solution allows our customers to experiment in data analytics on an efficient basis. We hope that over time it will add value for you across many asset classes.

These same principles apply to our CHES replacement project. Once again, we've decided to create a solution that is based on open technology, which gives access to more stakeholders to enable them to create new products and services, improve efficiencies, and lower risk and costs.

- We could have settled for simply building a new system – CHES Mark II – with a contemporary messaging protocol that replaced the legacy technology and provided the same, or slightly upgraded, clearing and settlement services on offer today.
- Instead, we're building an open infrastructure solution that offers the comforts of CHES Mark II with the added option of permissioned, source-of-truth data, in real-time.

- In addition to reducing data reconciliation issues (as users by definition have the same data source), the smart contracting language (DAML) allows the industry to reduce business logic interpretation issues because it enables the standardisation of how rules, rights, obligations, workflows, etc, are handled. This is a further way of reducing errors and allows for business logic to be shared across stakeholders. As mentioned, ISDA is using the same language to achieve this in the global derivatives world.

A DLT-based CHES system gives ASX and the marketplace a foundation for the next 20 years upon which to generate significant efficiencies. This is a chance for Australia to 'leap forward', like we did when CHES was implemented in the 1990s.



The potential new products and services, and the possible cost savings of these added extras, are best assessed at the individual level and depend on each customer's business model. But consider this – the cost of the \$2.7 trillion super system alone is currently around \$22 billion per annum. The annual cost to the system of settling equities via CHES on ASX is less than one-quarter of 1% of that number. It stands to reason that a new system providing real-time source-of-truth information securely to those who are entitled to see it, coupled with an ability for customers to build standardised business logic directly onto this source-of-truth (via a smart contracting language), will make the industry more efficient.

Is this efficiency gain 1%, 5% or even more? At this point, who knows? However, it's a low bar to think that a fully implemented DLT system would give the industry a mere 1% cost benefit. Even if this 1% is correct, ASX would be adding value to the industry that are multiples of the current settlement fees.

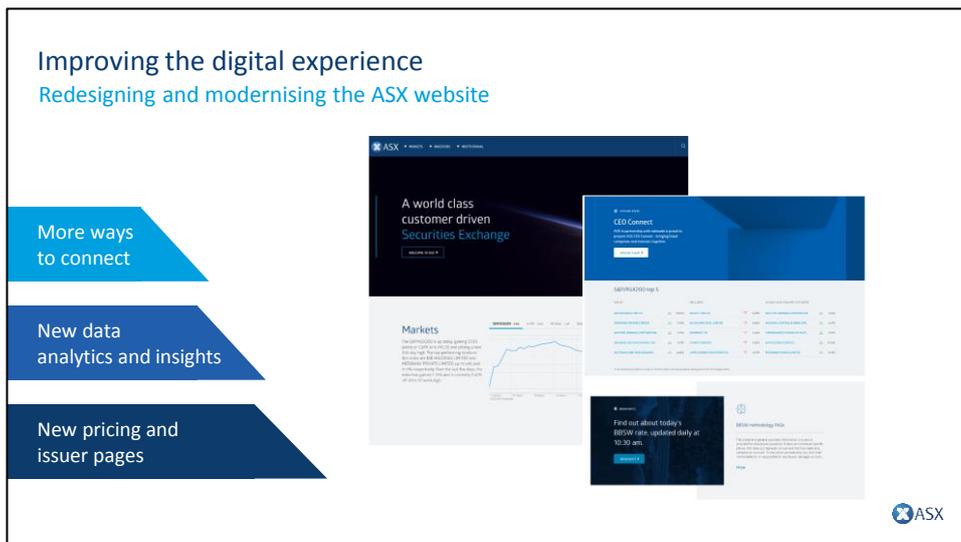
Importantly, when I talk of a benefit, I don't just mean a reduction in costs. This infrastructure will also create value by providing a platform for our customers to develop better products and services for the next decade and beyond. I believe this is a significant opportunity for our industry.

This is before we think about making the lives of intermediaries, issuers and investors even easier by moving to have debt securities held on a similar platform. This will mean that all holdings can be seen on the one system with perfect trust and in real-time. This could also lead to lower risk and savings across collateral management by bringing the two asset classes together.

Let me now move onto a couple of other initiatives.

Improving the digital experience

Redesigning and modernising the ASX website



More ways to connect

New data analytics and insights

New pricing and issuer pages

ASX

Beneath the headline-grabbing work to replace CHESS with DLT, is the investment we’re making to modernise and redesign the ASX website, and to improve the experience for our customers of interacting with our various digital channels.

Over time, our digital channels will offer more ways to interact with ASX and provide new data analytics and insights, available at any time, on any device. Our website will offer new pricing and issuer pages to showcase the wealth of information available to users.

The ASX website attracts more than five million visits each month. It’s one of the most visited and trusted finance industry portals.

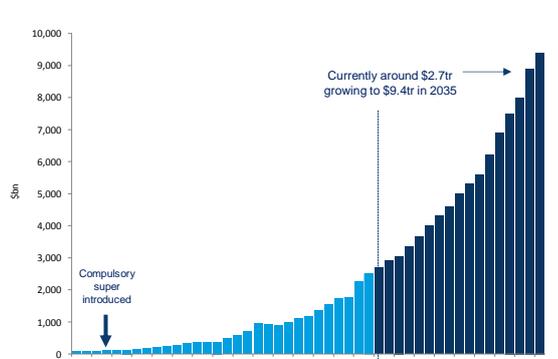
We’re working with customers to understand your digital needs. This has been a key takeaway from our recently completed annual customer survey. You want ASX to continue the consultative approach that’s proved beneficial on the CHESS replacement project.

We welcome this feedback. It aligns with our own efforts to consult widely and extensively on the matters that have a market-wide impact. We know that great experiences don’t happen by accident, so we will continue to test and refine to get it right.

Getting it right for customers means introducing products and services that you value.

New products and services to capture opportunity

Meet increasing demand and changing investor appetites



Currently around \$2.7tr growing to \$9.4tr in 2035

Compulsory super introduced

Partnering with local and global fund managers

- Quality products and trusted advice
- Diversification across asset classes, sectors and geographies
- Liquidity and transparency
- Capital growth and income

Source: ABS, Deloitte Actuaries and Consultants

ASX

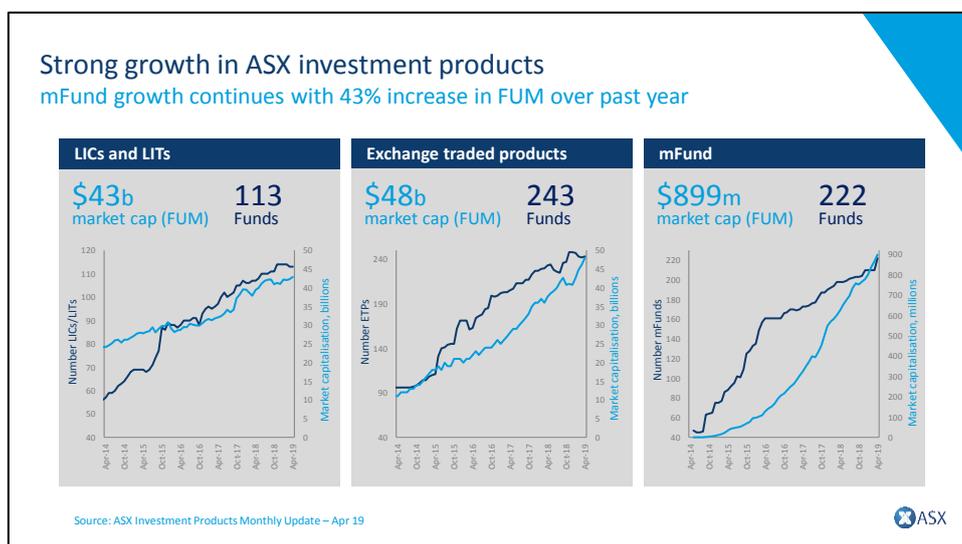
It also means capturing the opportunities flowing from Australia’s growing \$2.7 trillion super system. ASX wants to work with you to create the products and services you need to meet the needs of your customers.

In my speech last year, I anticipated that the demand for quality products and trusted advice will increase as clients demand greater transparency and independence. The Hayne Royal Commission has emphatically underlined the truth of this.

Our vision today is consistent with what I outlined last year - enable retail investors and their advisers to construct quality portfolios, at low cost, that achieve:

- Diversification across asset classes, sectors and geographies
- High levels of liquidity and transparency
- The option of capital growth and income.

We aim to achieve this by partnering with the best local and global fund managers to put their products in reach of Australia’s retail investors and self-managed super funds. All of these investments can be held on the investor’s HIN, providing the benefit of name on title, know your client (KYC) efficiency, and the ability to tailor the portfolio to each individual investor’s circumstances.



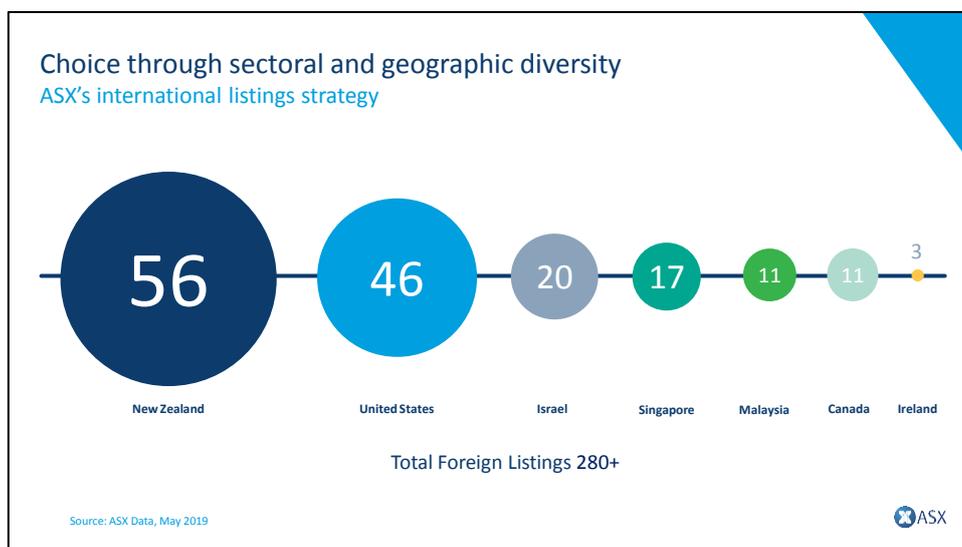
ASX is the home of ETPs, with 243 funds and \$48 billion in FUM, a \$10 billion increase over the last 12 months. ETPs enable investors to get efficient exposure to a variety of asset classes at low cost, both from a management fee and an overall cost point of view.

Similar advantages are offered by the mFund service. It’s another example of ASX working with customers to grow the investment supermarket. mFunds enable investors and advisers to get easier and faster access to unlisted managed funds, without the additional fees or administrative overhead of alternatives. This helps investors broaden their investment portfolio. And they can buy and sell units in mFund via the same broking services they use to transact shares.

The mFund service now includes 222 funds, which can be accessed through 19 distributors. In FY19, 140 new financial advisers started placing clients into mFunds, taking the total number of financial advisers using mFunds to 550. Funds under management is almost \$900 million – representing growth of 43% in the past 12 months.

The future looks even brighter for mFund once the CHES replacement project is complete. Connecting to the service for fund managers and brokers will be even easier, with the added benefit of standardisation of workflows across equities and managed funds utilising global ISO 20022 messaging protocols. Outside the key functions of applying and redeeming units in managed funds, there will also be the potential for third-party vendors to develop value-added services, such as consolidated reporting in areas like tax and KYC.

We remain committed to developing and growing the service for the benefit of advisers and investors.



A further initiative to gain traction over the past two to three years is the growth of technology and foreign company listings on ASX.

Our strategy is to work with the local industry to list quality companies for the long-term. We seek to provide investors with greater choice through sectoral and geographic investment diversity.

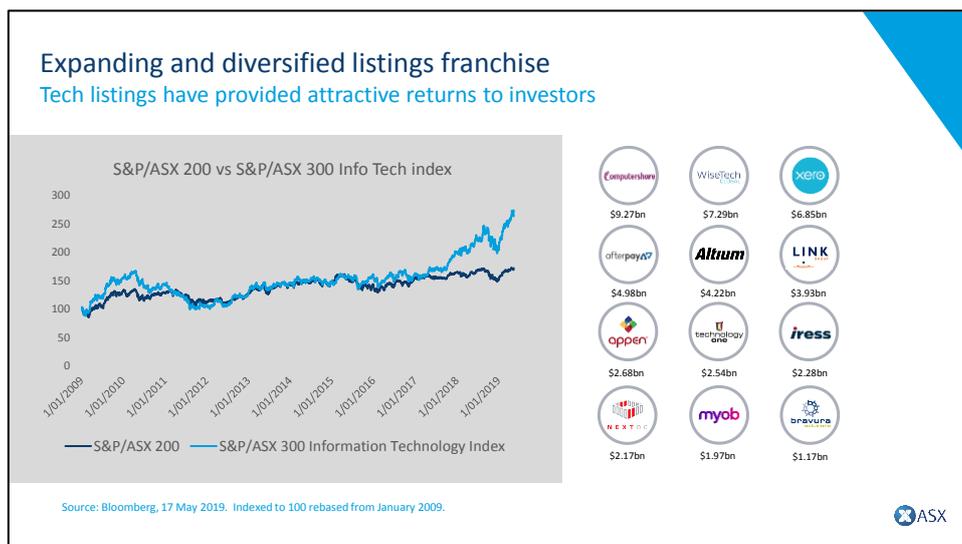
Over the last five years there's been 126 foreign company IPOs on ASX, raising on average \$42 million each. This represents hundreds of millions of dollars in exported financial services expertise – a significant benefit for Australia and our financial services, legal and accounting industries.

A perfect example of ASX's strategy working well was the recent listing of US-based tech and communications services company Life360.

The US is one of our key international sources of listings. It is second only to New Zealand with 46 companies listed on ASX. Life360 was our largest ever tech listing from the US, raising over \$145 million, and the largest tech listing by capital raised since the end of 2016.

There is no doubt that technology will play a greater role over time in both Australia and the world economy. Technology is not only a key plank of ASX's own business development, but it is also a key part of our listings growth strategy. We now have approximately 200 listed tech companies – our second largest sector behind resources. This is delivering diversity to Australian investors who have been traditionally more weighted to resources and financial services.

Consider the alternative: should ASX shut the door to tech listings? Should we leave this industry to other exchanges? If we did, capital, companies, investors and exciting growth opportunities would go elsewhere and our public market would become less relevant. It's our job to facilitate the listing of suitable Australian and foreign companies which are brought to us by banks, brokers and underwriters.



To ignore tech would be to overlook the success the ASX-listed tech sector has already achieved, with global players like WiseTech, AfterPay, Appen, Altium and Xero – members of the so-called WAAAX stocks. These have delivered solid returns to investors. The S&P/ASX 300 Information Technology index has performed well since inception, but especially since 2016, as the chart shows.

More volatile price discovery reflects the emergence of exciting new business models. As such, it is not easy to pick winners in this space – or any space, for that matter. ASX does not and should not try to. We do suggest however, that investors take advantage of diversification to enable an improved risk/return profile.

ASX can facilitate access to a vibrant, liquid and well-regulated financial market. By attracting foreign tech companies to list on ASX and build a viable ecosystem, we are also helping ensure that local quality tech companies stay in Australia and remain accessible to Australian investors.



While we don't pick winners, we do set the admission rules for companies to help keep the standards of our market high. That's the quality control we apply. It's an ongoing process, where our rules and guidance evolve to meet the changing needs of Australia's market.

I'll highlight one statistic. Since introducing a new pre-vetting process in early 2016, ASX has rejected more than 80 listing applications from companies that failed to meet the business, governance or regulatory standards we expect of an ASX-listed company.



There is a key role to play for those here today too, ensuring the quality of the companies you promote and bring to market, and the advice you give your clients and investors.

A market of high integrity is in all our interests. ASX works for it daily. It is core to our brand and reputation. It is critical to the strong foundations upon which our business and operations are based.

In conclusion, in so many ways our future is entwined with yours. ASX is not in the business of competing with its customers, but providing the products, services and infrastructure that allow the market to grow, innovate and generate efficiencies. This is not without its challenges. But we commit to continue to work closely with you to meet your needs. If you consider our history, that's what ASX has been doing since its formation. And I am determined to continue that tradition.

Thank you.

