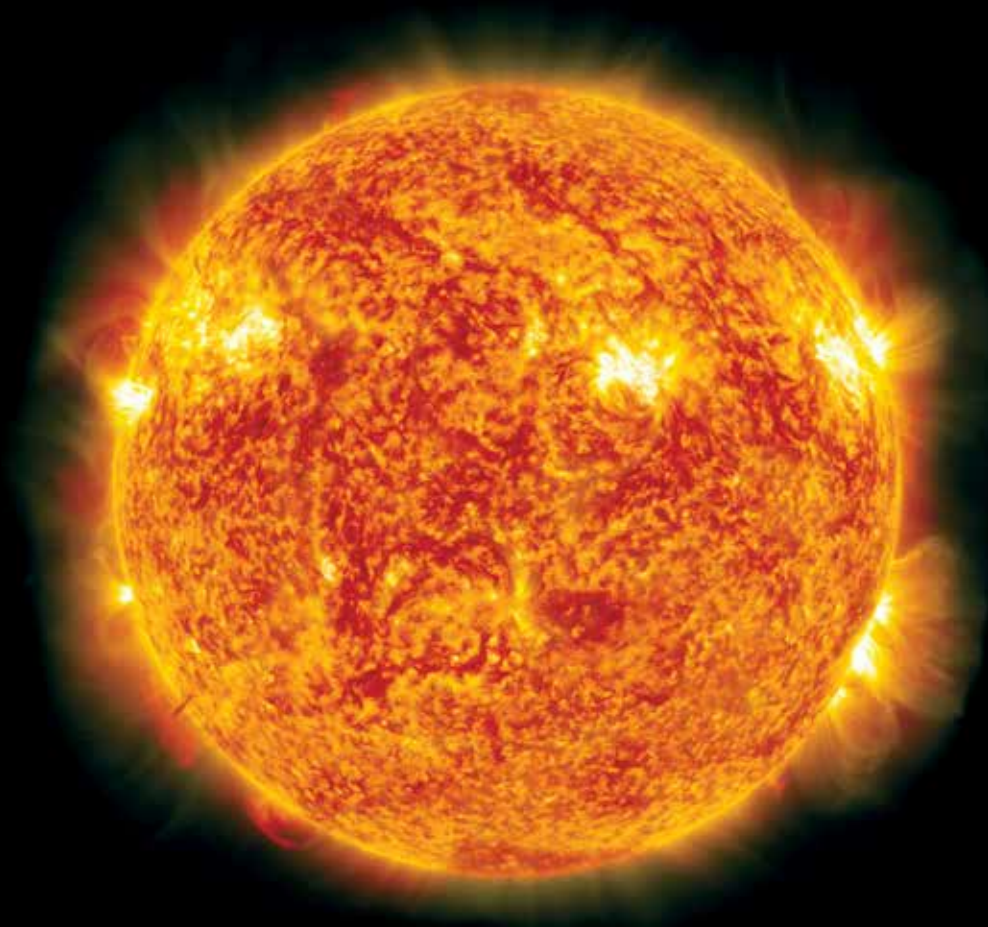


Deloitte.

**SINGAPORE
FINTECH
FESTIVAL**



Singapore FinTech Festival 2017

FinTech's place in the sun

December

This is a summary of highlights at the Singapore FinTech Festival, which was organised by the Monetary Authority of Singapore, in partnership with The Association of Banks in Singapore and in collaboration with SingEx Holdings.



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FinTech's place in the sun

In November 2017, the second Singapore FinTech Festival welcomed more than 30,000 people, from 100 different countries to meet others, engage with experts, and spark new ideas. It was the largest FinTech gathering anywhere in the world.¹

At the heart of the festival was a three-day conference. Numerous talks and dozens of sessions explored a spectrum of FinTech issues. A showcase event recognised FinTech startups for their innovative solutions.

Before the week was out, participants had heard from leaders including Arun Jaitley, India's Finance Minister and Minister of Corporate Affairs and Queen Máxima of the Netherlands in her capacity as UN Secretary-General's Special Advocate for Inclusive Finance for Development. Joining them were more than 160 others, representing the leadership of central banks and regulatory agencies, financial institutions, venture capital firms, and FinTech companies.

In addition to financial institutions, startups, investors, tech firms and regulators, a number of luminaries attended the event. They included Christine Lagarde, Managing Director of the International Monetary Fund; Tharman Shanmugaratnam, Deputy Prime Minister and Chairman of the Monetary Authority of Singapore (MAS); and Vivian Balakrishnan, Minister for Foreign Affairs and Minister-in-charge of the Smart Nation Initiative.

The MAS, in partnership with The Association of Banks in Singapore (ABS) and in collaboration with SingEx Holdings, organised the Festival.

In this document, Deloitte Southeast Asia summarises the discussions that took place during the Festival. The event's agenda covered many of the largest themes of FinTech. As you'll discover, the speakers offered a lot of insight around topics such as risk, financial inclusion, and regulation. We hope this report provides you with some thought-provoking ideas.

Focus on FinTech

The Singapore FinTech Agenda

MAS Managing Director Ravi Menon kicked things off with a review of MAS' work with the financial services industry.

Singapore is embracing FinTech to maintain its position as a global financial centre. To that end, the city-state is working with the financial industry to develop a number of strategies. One is to create an ecosystem of diverse players competing and collaborating. Another is to develop an open-architecture economy that enables connectivity and innovation. Singapore also plans a web of international links to promote the exchange of ideas and scale solutions. To realise these ambitions, Singapore also needs a strong talent pool, a conducive regulatory environment, and a safe and secure cyber environment.

Several initiatives have already come out of these strategies. They include a revamped FinTech Innovation Hub and the launch of the Asia Pacific regional office of the Financial Services Information Sharing and Analysis Centre (FS-ISAC). MAS has also announced a new artificial intelligence (AI) and data analytics grant. Singapore has linked PayNow with Thailand's PromptPay. And the nation is pursuing collaborations: One with the Massachusetts Institute of Technology on FinTech research and development, and another with the ABS to strengthen cybersecurity.

Some MAS-driven FinTech projects are to streamline business processes, such as Know Your Customer (KYC) for banks and RegTech for supervision and compliance. Several others involve utilities. The Global Trade Connectivity Network, for instance, is a cross-border trading platform with the Hong Kong Monetary Authority (HKMA) using distributed ledger technology (DLT).² There's also the ASEAN Financial Innovation Network, a project with the World Bank to deepen financial inclusion.

And then there's Project Ubin, which aims to leverage DLT so that different jurisdictions can work together directly to clear and settle payments and securities.³ The second phase of Project Ubin concluded with the production of three software prototypes. MAS plans to release the source codes of these prototypes so that industry players can study and build on them.

Presented by Ravi Menon, Managing Director, Monetary Authority of Singapore (MAS) on 14 November

The Global FinTech Hackcelerator Programme

From social media to blockchain, FinTech trends are moving fast. In a post-crisis world, however, trust in financial services is not what it was, and it's holding back development. In an industry that's vibrant, efficient, and fair—not to mention stable and resilient—trust will eventually return.

One key to this turnaround? A relentless focus on customers. Convenience, personalisation, and responsiveness to customers have raised the game industry-wide. To free up resources for customer service, firms are looking to take cost out of operations, compliance, and financial crime.

These and other issues are what the Singapore's FinTech Festival's Global FinTech Hackcelerator set out to address. The programme invited innovators from around the world to address problem statements from the FinTech and financial services communities. In 2017, 20 finalists were selected from a field of 600. They spent 12 weeks working with industry champions to customise their market-ready solutions into contextualised prototypes ready for adoption.

Innovation isn't easy. It takes perseverance, tenacity, and a lot of hard work. With the Global FinTech Hackcelerator programme, the hope is that anyone involved gains not only business opportunities but satisfaction as well.

Throughout this report we highlight a number of innovations which were developed through this programme.

Redefining digital leadership

Digital transformation leaders need the vision to see beyond disruption. They understand all parts of the FinTech ecosystem, including the potential for partnerships between incumbents and new entrants. They look for linkages where the organisation can harness technological innovation to its benefit. Paired with values, vision enables leaders to sustain relationships with clients even as they usher the organisation through changing circumstances.

However, empathy is important as well. Empathy enables leaders to transcend functional and organisational silos. They bring the business and IT together to work as a team, helping individuals adapt to new roles. They also humanise technology for customers, engaging them across channels and ensuring none are left behind.

Another essential leadership quality? Audacity. Fear of failure is something everyone must cope with when undertaking digital transformation. But an audacious outlook helps to overcome the fear and advance the organisation along its transformation journey.

Discussed 14 November
Adrienne Harris, Chief Business Development Officer and General Counsel, States Title, Inc.
Heather Cox, Chief Technology and Digital Officer, USAA
Jessica Tan, Executive Vice President, Ping An Group
Janet Young, Managing Director / Head, Group Channels and Digitalization, UOB
Moderated by Haslinda Amin, Bloomberg TV Chief and International Correspondent for SEA





Beyond proof of concept

It's one thing to invent a technology, quite another to launch it into the complicated world of financial services. For FinTech to reach its potential, it needs a fertile climate of supportive government, enabling infrastructure, and cross-industry collaboration. But as recent history has shown (consider the internet), once the pieces fall into place, change can be sweeping.



Year that non-bank players can start managing accounts held by banks in the EU

2018



36% of financial service companies deploying Blockchain solutions⁴



The Linux foundation has **15** years of open-source projects experience; banks are only catching up



40% of employers worldwide face talent shortages in technology⁵



280 billion of payment transactions annually are now non-cash⁶



40% of companies hiring tech talent are not tech companies⁷

Changes in the European banking scene

To understand banking in Europe today, the environment in Poland might offer some context. Poland has had a prolonged period of low or negative interest rates, prompting banks to look for solutions in collaboration with FinTechs. For their part, regulators have shown a preference for deposits safety and responsible lending activity while remaining very flexible with payments, transfers, and the foreign exchange market. Another trend: Retail banking services have shaken up the distribution network, leading to a significant reduction in physical branches.

More broadly, the biggest challenge may well be the European Union's Second Payment Services Directive (PSD2), which goes into effect in January 2018.⁸ Regulators have decided to open APIs to third-party providers, which will allow non-bank players to manage accounts held by banks.

For banks in Europe, the chief risk of PSD2 is disintermediation as they compete with FinTech companies for new opportunities. To FinTechs, what's important is their ability to gain access to customers via the trust that banks have built. Incumbent institutions will need to choose a strategy for responding to these developing events, with a key success factor being culture—particularly a culture of innovation and a culture centred around customer needs.

*Discussed 15 November
Slawomir Sikora, President, Citi Handlowy
Moderated by Chloe James, Group Media Director, RFI Group*

Open architecture: From mindset to skillset

PSD2 may be a brand-new regulatory mandate, but its underlying philosophy of open architecture isn't. The Linux Foundation, for example, has a 15-year history of open-source projects.⁹ From this perspective, banks are merely catching up.

Still, there's a lot that needs to happen. The first thing is for banks to consider the opportunities of open banking, rather than just the risks, because fundamental strategic choices may be unavoidable. Financial institutions may end up focusing on specific products or market segments. Some may become utilities or even emulate technology companies by offering platforms.

Open architecture is likely to alter the way banks operate as well. While banks traditionally are closed on Sundays and public holidays, an application programming interface (API) stays open round the clock. While temporary and contract workers can fill any gaps in existing staff, banks may need to hire new staff who are familiar with critical areas such as cybersecurity. And while customer data protection and ownership are already important today, they'll become even more so in an open-architecture environment.

Discussed 15 November
Matthias Kroner, Chief Executive Officer, Chairman of the Executive Board, Fidor Bank
Brian Behlendorf, Executive Director, Hyperledger
Michael Tang, Global Financial Services Digital Transformation Lead, Deloitte Canada
James Lloyd, Asia-Pacific FinTech Leader, Ernst & Young
Moderated by DK Sharma, Chief Executive Officer, America, Percipient Partners

Alternative payments: Beyond hype

Although cash will likely always be with us to some degree, the era of alternative payments is arriving.

Alternative payments aim to make it easier and cheaper to transfer money across borders. Technologies like blockchain, AI, and quantum computing are leading this revolution in payments. China, where people are rapidly taking up alternative payments, offers an early peek at what a cashless payment society will look like.¹⁰

But progress can only be as fast as the slowest financial institution—and many are taking a wait-and-see approach. Others operate in countries with technological and cultural limitations as well as hurdles of scale, regulation, and compliance. Here, regulators can help by levelling the playing field among incumbents and new joiners.

In any case, it's time for financial institutions to get off the fence. Alternative payments will upend the way individuals, companies and governments interact. Incumbent firms can get ahead of this by evaluating where they need to be when alternative payments finally take hold.

Discussed 15 November
Brad Garlinghouse, Chief Executive Officer, Ripple
Taavet Hinrikus, Cofounder and Chief Executive Officer, Transferwise
Tim Grant, Founder and Chief Executive Officer, DrumG Financial Technologies
Moderated by Chonchol Gupta, Chief Business Officer, IOT Word Labs

Harnessing the power of the ledger

For blockchain, it's still the early days. Many in financial services remain unfamiliar with this decentralised application platform. Firms are still learning what it means for them in terms of value creation, efficiency and transparency.

And while financial institutions stand to realise significant cost savings from blockchain, they still need time to fully benefit from it. For instance, financing or operational considerations may keep banks from shifting toward the immediate settlement that blockchain enables.

Still, progress is happening on a number of fronts. Solutions are appearing in the market, although interoperability remains a challenge. And adoption is gradually spreading. The Republic of Georgia, for example, is using blockchain for their land titling system, so that citizens can soon buy and sell land via their smartphone.¹¹ And the Ukraine has agreed to put its e-government system on blockchain.¹² To encourage further activity, initiatives such as the Global Blockchain Business Council, the Blockchain Alliance, and the Global Blockchain Summit are helping to educate regulators and governments about blockchain.

Discussed 15 November

David Rutter, Founder and Chief Executive Officer, R3 Lab

Joseph Lubin, Founder, Ethereum

VLK Laxmikanth, Managing Director, Broadridge Financial Solutions

Greg Li, Head of Asia, BitFury

Moderated by Matthew Roszak, Chairman and Cofounder, Bloq

Solving the talent puzzle with technology

In all areas of technology—data, digital, and security—banks face a scarcity of talent. Regulation and, in some locations, an aging workforce serve to magnify the situation. In response, financial institutions are looking for new ways to bolster their workforce.

Forward-thinking governments are stepping up to help. In Singapore, for instance, the MAS has opened up one programme to create FinTech internships and another to provide industry mentors among the nation's five polytechnic universities.¹³ Through these programmes, the government aims to identify academic gaps in the curriculum so that the polytechnics can bridge them, producing students equipped with adequate FinTech knowledge for future employment.

Standard Chartered Bank's journey

For many years, banks have been storing, transferring, and lending money. And now, just as mainframe innovation once transformed back-office processes in banks, FinTech is changing how customers, regulators, and other stakeholders interact with financial services institutions.

Standard Chartered Bank has undertaken a number of initiatives to retool itself with digital technology. It's established a dedicated group for human-centric design, deployed an agile methodology in IT, and developed proof of concepts around 20 FinTech offerings. Of this list, RegTech, analytics, risk monitoring, and customer onboarding are among the solutions the bank has put into production so far.

Like an egg in an incubator, Standard Chartered has been creating from within. Eventually the shell will fall away, and a new life—a bank for the digital age—will emerge.

Presented by Michael Gorriz, Group Chief Information Officer, Standard Chartered Bank on 15 November

But digital skills are only part of the talent picture. For positions in the FinTech sector, employers also seek out human skills such as curiosity, teamwork, cultural sensitivity, and mutual respect. An imagination for a future business environment is of value as well, along with a passion for customer service and being proactive in the regulated environment. Beyond compensation, organisations might offer experiences not available anywhere else so they can bring out the best in their employees.

Discussed 15 November

Yolande Piazza, Chief Executive Officer, Citi Fintech

Susan Hwee, Head, Group Technologies & Operations, United Overseas Bank

Clarence Ti, Principal, Ngee Ann Polytechnic

Hirofumi Aihara, General Manager, Digital Transformation, Mitsubishi UFJ Financial Group

Moderated by Annie Koh, Vice President, Office of Business Development, Singapore Management University





Global markets

The global market for FinTech is filled with lively variety. Innovators, be they homegrown or transplants from abroad, face varying opportunities that define the direction of their strategies. Meanwhile, local FinTech boosters are sizing up their investment capital, talent pools, and other resources as they search for ways to play to their region's strengths.



Target date for ASEAN integration

2025¹⁴



Third-party payment accounts in China, 2016¹⁵

3.4 billion



Share of India's population with biometric data on file

99%



FinTech companies operating in LATAM

700+



Credit gap among SMEs in the Africa region

US\$2-2.5 trillion



North American banking transactions that are mobile

30%

Association of Southeast Asian Nations (ASEAN)

FinTech is a bright spot in an otherwise-challenging path to integration among Southeast Asian nations. Today, payment solutions drive an increasing number of cross-border transactions, and technology looks like a promising way to bring residents of emerging ASEAN markets into the banking system. In light of these benefits, banks should consider collaborating with FinTech companies rather than treating them as competitors.

However, ASEAN jurisdictions face a dilemma as they advance toward harmonisation. While standardisation would help member nations accomplish this goal by 2025 (the target date), the effort to agree on a single set of standards may prove an impediment.

Meanwhile, cybersecurity remains a key issue. Inter-government collaboration is key to countering cross-border cybersecurity threats. But local governments needn't wait. They can jumpstart the process by engaging the private sector to protect public data, and by bringing in foreign expertise to educate the local ecosystem.

Discussed 14 November
Nestor Tan, Chairman, Philippines Banking Association, President, BDO Unibank
Nadiem Makarim, Chief Executive Officer and Founder, Go-Jek
Teeranun Srihong, Chairman, Digital Economy Promotion Agency Commission, Thailand
Alex Kong, Founder and Chairman, TNG FinTech Group
Moderated by Charles Ross, Editorial Director for APAC, EIU Thought Leadership

China

FinTech's advancement in China offers the potential to reduce cost for banks, extend cheaper loans to customers, and reduce loan defaults. It also, however, means a gradual tightening of internet finance regulations. The upside to this is a FinTech sector that's more organised and conducive to innovation.

For now, China's largest FinTech players have two dominant technology strategies. One is to identify customer needs first, then find the right solutions. The other is to discover the technology, then fit it to customer needs. Either way, FinTech companies and traditional banks have an incentive to work together, reflecting a consensus that technology advances drive the financial services industry.

Chinese FinTech companies also have varying expansion strategies. Some focus on the Chinese market, while others team with local FinTech companies in other markets to pursue international opportunities. Among the latter group, Singapore is an attractive location for its reputation as a centre of trust, regional hub, and strong talent pool. It's also a potential growth market for mobile payments. But Singapore is also a very different market from China. The island country would do well to capitalise on its geographic location, foster a culture of innovation among the younger generation, and position itself as a gateway to the world market.

*Discussed on 14 November
Tang Ning, Founder and Chief Executive Officer, CreditEase
Douglas Feagin, President International Business, Ant Financial
Soul Htite, Cofounder, Dianrong
Moderated by David Lee, Professor, Singapore University of Social Sciences*

Japan

"Tokyo 2020" is a city initiative to position Tokyo as a financial hub. As part of this effort, in 2017 the city established a free, one-stop service to smooth the way for overseas financial companies to set up shop in Tokyo. The city government also works with local Japanese firms to help FinTech companies with business plans, office space, and networking opportunities.¹⁶

To encourage innovation, Tokyo recognises companies that use FinTech to provide financial products and services to Tokyo residents and solve issues for the city. The government also recognises firms that promote environmental, social, and governance investment.

The Tokyo government has launched a promotional campaign to raise awareness of these services. One of the results is an ad in New York's Times Square. In prominent letters over an image of Shibuya Square, it asks a simple question: "Why not Tokyo?"

Presented by Yuriko Koike, Governor of Tokyo on 16 November

India

India's demonetisation last year was a watershed moment that created a FinTech boom—not just in unsecured lending, but also in the small and medium-sized enterprise (SME) segment and among targeted financial products such as small ticket insurance. Another growth area is among products leveraging biometrics data, which the government has captured for 99 percent of India's population.¹⁷

Demonetisation isn't the only source of opportunity in India, however. There's also a goods-and-service tax which, as the economy digitises, will make a far larger pool of economic data available to the financial services industry.

But as India moves toward a digital framework and cashless economy, it must come to grips with cybersecurity. The country also faces the challenge of providing connectivity to its remaining hinterland. Issues include obtaining the resources to improve digital infrastructure, such as building WiFi towers in rural villages and extending telecommunications coverage.

Discussed 14 November

Shri Debashis Sen, Additional Chief Secretary to the Government of West Bengal and

Chairman-Managing Director, WBHIDCO

Shiv Bhasin, Chief Technology Officer, SBI

Rohit Bhagat, Board Director, Axis Bank

Vish Mishra, Venture Director, Clearstone Venture Partners

Moderated by Ritu Singh, Journalist, CNBC India

Latin America (LATAM)

The 26-nation LATAM region is home to some 640 million people, 60 percent of whom are outside the banking system.²¹ This reflects a significant opportunity for FinTech growth, aided by an existing technology infrastructure and connectivity. Other advantages are country size and common languages, which have proved conducive to replicating European and Asian business models.

Compared with other regions, however, LATAM has a wide and growing gap in technology-enabled business. Much of the issue stems from talent scarcity. There's also a gap in venture capital equity. Despite this, the World Bank's International Finance Corporation (IFC) has invested US\$50 million into LATAM's FinTech sector, which has doubled since 2015.²² More than 700 FinTech companies now operate in the region.²³

Another boost came in the form of emerging, new legislation to allow for a friendlier, more predictable environment for FinTech companies.²⁴ And in 2017, the Pacific-Alliance agreement was extended to FinTech and admitted new member countries that could serve as a gateway to the LATAM market.²⁵ These countries include Singapore, Australia, New Zealand, and Canada.

Discussed 14 November

Diego Gutierrez, Chief Executive Officer and Cofounder, RSK Lab

Irene Arias, Director, IFC LATAM

Diego Molano, Senior Advisor, Davivienda

Kurt Koenigsfest, Chief Executive Officer, Banco Sol

Moderated by Laura Gaviria Halaby, Chief Acceleration Officer, The Venture City

India's journey

Two to three years' worth of changes has brought India closer to a digital future and greater financial inclusion. Some of the changes affect the general economy. They include making it easier to do business in India, opening the economy to more foreign direct investment, and new rule-making on global insolvency and tax reforms.

Other changes specifically target the financial economy. One is an identity system that captures the Indian population's biometric information. This system, called BHIM-Aadhaar, enables targeted distribution of subsidies to the needy and can facilitate digital payments as well.¹⁸

Another development is demonetisation, which has eradicated the adverse effects of a cash-denominated economy and brought digital payments centre stage. India also introduced a goods and services tax that requires every transaction to be recorded online. The new tax enables greater collection of data and provides for more checks and balances in the economy.

These reforms are bound to produce a short-term economic shock. However, the medium and long-term outlook is positive. Combined with India's relatively stable economy and expanding tax base, these structural reports will likely make India a more attractive business destination than ever.

Presented by Arun Jaitley, Finance Minister and Minister of Corporate Affairs, India on 15 November

Africa

As a region, Africa is difficult to categorise since each country is at a different stage of development. However, the opportunity for SME growth and financial inclusion is significant: Over 400 million SMEs are unserved or underserved by banks, with a credit gap totalling US\$2-2.5 trillion.²⁶

FinTech startups in the region are responding with business models to reach underserved populations via mobile and apps. Indeed, for many in Africa, banking and financial services are initiated by phone. Between this mobile-first environment and a population that is strongly trending younger,²⁷ a market is emerging that is highly receptive to technology.

Given the relative poverty and low GDP growth, FinTech firms may be challenged to deliver services at a cost appropriate for financial inclusion. There's also the reality that FinTech and innovation are not on the regulatory agenda in most of the region. Kenya, Tanzania, and Rwanda are notable exceptions, however, offering FinTech providers a glimpse of what's possible for those who can navigate this complex environment.

Discussed 16 November

Kudzai Kutukwa, Founder and Chief Executive Officer, Mobbisurance

Sean Emery, Co-founder and Chief Executive Officer, Rainfin

Sameer Hirji, Co-founder, Selcom

Viola Llewellyn, Co-founder and President, Ovamba

Moderated by Lazaro Campos Co-founder, Fintech Stage

The Nordics

The Nordic region of Europe has a long history of technical and financial know-how. Online banks, for example, have been present in the region since the 1990s—and all Nordic countries are pushing toward a cashless society.^{28,29}

Despite its active startup scene, Nordics often face difficulty in scaling FinTech solutions. Collaborative funding and development are one way to address this challenge. Another is to search other markets for strategies to adopt. The Nordics also are investing in hubs, labs, and accelerators to foster the region's reputation as a centre of innovation in Europe.

Another idiosyncrasy of the Nordic region is a cultural reluctance to exclude anyone from participating in the modern financial economy. To that end, spreading financial literacy is a key condition for sustaining breakthrough innovation among the Nordics.

Discussed 16 November

Aleksi Grym, Head of Digitalisation, Bank of Finland

Iren Tranvag, Chief Executive Officer, Nordic Finance Innovation

Thomas Krogh Jensen, Chief Executive Officer, Copenhagen FinTech Lab

Lisa Enckell, Partner, Approach World

Moderated by Chloe James, Group Media Director, RFI

Established markets

With their well-developed infrastructure and technology, it's tempting to look to established markets for FinTech leadership. However, such markets have mature relationships and regulations that are resistant to disruption. This is borne out in a recent Deloitte Global survey which asked senior executives whether the financial industry will fundamentally transform in the next five years.³⁰ Just 45 percent of executives in North America believed it would, versus 70 percent of executives in Asia. Likewise, in North America mobile banking is only about 30 percent of banking transactions, while in Asia this proportion is closer to 70 percent.³¹

That said, mature markets have demonstrated their ability to innovate. From ATMs and chip-equipped credit cards to the internalisation of market and mobile banking, established markets have a track record that's tough to ignore. This is due in no small part to competitive forces prompting firms to look for new sources of profit.

Mature markets are accustomed to regulations and structure, which provide the stability for businesses to flourish. Consumer and data protection, risk control, and anti-money laundering are particular concerns among regulators dealing with FinTech activity. But regulations can also discourage new market entrants. In response, regulatory environments are changing in ways that may foster innovation. Some jurisdictions are adopting principles-based regulations, for example. Others are revisiting regulatory barriers that keep FinTech companies out.

Discussed 14 November

*Jorg Gasser, State Secretary for International Financial Matters,
Federal Department of Finance, Switzerland*

Anne Le Lorier, BdF Deputy Governor

*Oki Matsumoto, Founder, Chairman and Chief Executive Officer,
Monex Group*

*Bob Contri, Global Financial Services Industry Leader, Deloitte
Global*

*Moderated by Mark Worthington, Partner and Managing
Director, Klareco Communications*



**"Technology is a
universal language."**

**Oki Matsumoto, Founder,
Chairman and Chief Executive
Officer, Monex Group**



Inclusive FinTech

Inclusive technology helps people overcome poverty by providing ways to tap into the powerful resources of the financial system. But it's more meaningful even than that. To forward-looking institutions and leaders, digital financial services are an economic game-changer—promising greater innovation, higher GDP, and better opportunities for all.



Adults who are excluded from the financial system

2 billion



MSEs without access to financing

1/2³²



Global money market accounts that remain unused

69%



Adults in Asia who own a debit card

30%



Unbanked in Europe who are employed income earners

1/3³³



Amount that digital finance could add to the GDP of emerging markets by 2025³⁴

US\$3.7 trillion

Tackling poverty through financial services

Despite leading active financial lives, roughly two billion people worldwide lack access to financial services.³⁵ They rely instead on cash, informal networks, and illiquid assets such as jewellery and livestock. But this unbanked economy is filled with risks and hidden costs that make escape from poverty difficult.

Digital payment systems, if they deliver good value, can help break this cycle by encouraging people to move away from cash. But for systems like these to take hold, they'll have to allow merchants and consumers to make payments in real time and gain immediate confirmation of their transactions. They'll also need to include a wider range of payment service providers, and enable customers to transact with anyone no matter who their service provider is.

Another key condition is the ability of governments to establish policies, incentives, and a regulatory framework around digital services. Regulators must define and regulate new types of service providers and adjust the requirements to open low-risk accounts. Consumer protections are necessary as well, along with the effective supervision of market participants.

Presented by Michael Wiegand, Director, Financial Services for the Poor, Bill & Melinda Gates Foundation on 16 November

Payments for inclusion

The broader issues surrounding financial inclusion—including regulation, infrastructure, and the need for collaboration among different stakeholders—are reflected at the payment processing level. In many markets, the result has been sporadic usage of payment products. In Asia, for example, only 30 percent of adults own a debit card.³⁶

Part of the challenge boils down to reducing friction for potential customers. There's friction in depositing funds and making payments, and the friction continues when coordinating services among different financial institutions.

One approach to addressing this is to set aside profits in the endeavour to bring merchants into the payment sphere. Another is for payment processors to go public with their goals—thereby making themselves accountable—then immerse themselves in the client experience so they can understand what people must go through.

Either way, banks remain integral to the process. They're the money-lenders and the deposit-takers, and consumers trust them. So they'll likely stay at the centre of payment processing no matter where the digital revolution leads.

Discussed 16 November
Ken Moore, Chief Technology Officer, Executive Vice President and Head, Mastercard Lab
Mark Jamison, Senior Vice President, Innovation & Strategic Partnerships VISA
Shuan Ghaidan, Global Director, Products, Union Pay
Ron Hose, Chief Executive Officer, Coin.ph
Moderated by Rashmi Dalai, Managing Editor for APAC, EIU Thought Leadership, The Economist

The financial inclusion ecosystem

Financial inclusion once meant providing microfinance services. Today, it's expanding to a larger portfolio of financial services, thanks to technologies such as digital payments and digital identity verification. These and other innovations are bringing down costs, documentation, and physical barriers that limit access to the financial system.

But standing up an inclusive infrastructure is a collaborative effort. It requires banks, regulators, technology companies, and other stakeholders to come together in creating a digital footprint. It also requires funding, with government and non-governmental organisations (NGOs) being two potential sources.

And then there's financial literacy. For technology to transform financial inclusion, it may need to go beyond simple financial services to empower people through financial education. In a world where close to 80 percent of the population in some markets remains unbanked, mass adoption will become possible when people see FinTech's specific relevance to themselves.³⁷

Discussed on 16 November
Ann Cairns, President, International Markets, Mastercard
Justo A. Ortiz, Chairman and Chief Executive Officer, Union Bank
Juan José Güemes, Chairman and Chief Executive Officer, Union Bank
Henri Dommel, Director of Financial Inclusion Practice Area, UNCDF
Moderated by Akiko Fujita, Host, The Rundown, CNBC

Policy and approach for sustainable financial inclusion

Financial exclusion can work in one of two ways. The first is to have no access to bank accounts. The second is to have no access to affordable financial products—such as loans, investments, and insurance. In many markets, financial exclusion looks more like the latter.

Ironically, unaffordability can be the byproduct of a robust traditional banking system. In Thailand, as in other developing countries, roughly 80 percent of the population has bank accounts but are shut out of other financial products. By contrast, in jurisdictions where the financial sector is weaker, consumers can bypass the banks and adopt FinTech directly.

One of the keys to financial inclusion is technologies that analyse enormous banks of data. They make it easier for people to open bank accounts and receive credit. But they also open the door to another set of problems, such as tracking the ensuing surge in debt and managing the privacy of data. It also falls short of addressing the cost of borrowing.

Regulators can help. They can work with innovators and service providers to design infrastructure and business flow. They can also stay agile and vigilant without getting in the way of innovation. With regulatory cooperation, FinTech will not only take place but bring financial inclusion along with it.

Discussed 16 November

Maha Bahou, Executive Manager for Payment Systems and Domestic Banking, Central Bank of Jordan

Korn Chatikavanij, Chairman, Thai Fintech Association

Vivek Pathak, East Asia Pacific Regional Director, International Finance Corporation (IFC)

Norbert Mumba, Deputy Executive Director, Alliance for Financial Inclusion (AFI)

Moderated by Chuin-Wei Yap, The Wall Street Journal

Hackcelerator product demonstrations: Financial inclusion

AID: Tech uses digital identity based on blockchain technology to verify and track charitable donations. In 2017, the Citi Tech for Integrity Challenge (T4I) presented the James Wolfensohn Game Changer award to AID:Tech for its solution to bring social and financial inclusion to the world's undocumented and underserved populations.

FT Cash is a payment and loan solution for SME, allowing merchants to receive and accept various forms of payment (credit cards, debit cards, wallets) and apply for loans from partner banks. FT Cash uses psychometric analysis and sales data as a basis for credit scoring. Currently operational in India, in 2016 FT Cash was one of six Indian startups to receive the GREAT Tech Rocketships award sponsored by the UK government and the iSPIRT Foundation.

Alternative Circle provides a solution for the unbanked population to obtain micro loans. A proprietary algorithm performs credit scoring using 2,000 data points including transactional data, social media data, contact data, and SMS. Alternative Circle provides lenders with a loan lifecycle from credit analysis to collection. They are operational in Kenya in partnership with two financial institutions.

Confirmu provides alternative credit scoring with the use of geolocation data, social media data, payment history, and behavioural analysis via a chat bot. Confirmu is currently operational in India, partnering with online lenders such as i-LEND and LendingSutra.

MyCash Online provides financial services for unbanked migrant workers. Services include cross-border remittance (using cryptocurrency), utility bill payment, mobile phone top-up, bus and airline ticket purchasing, and e-commerce. MyCash Online plans to enhance their services with micro-lending and micro-insurance to build a bank for the unbanked.

A better future

Access to financial services is a key weapon in the fight against inequality and poverty. Even so, some 40 percent of the world's adults are locked out of the financial system.³⁹ What's more, almost half of SMEs lack access to financing—this in spite of accounting for four out of every five new jobs in developing and emerging countries.⁴⁰

Consider as well that although FinTech companies typically provide people with affordable financial services products and tools, their effectiveness depends on usage—and more than 20 percent of the world's established bank accounts remain unused.⁴¹ And then there's the technology gap, which threatens to exacerbate tensions between rich and poor, urban and rural, and male and female.⁴²

FinTech is uniquely positioned to create transformative opportunities for millions of people. But for FinTech to thrive and drive financial inclusion, it must meet nine prerequisites. They include data privacy, cybersecurity, digital literacy, financial literacy, digital identity, connectivity, interoperability, fair competition, and physical infrastructure. With these elements in place, FinTech can make it possible for those who are strangers to traditional financial services to jump into a set of digital services that address their needs.

Presented by Her Majesty Queen Máxima, UN Secretary-General's Special Advocate for Inclusive Finance for Development on 16 November

“There are nine prerequisites for FinTech to flourish and be all-inclusive. They are data privacy; cybersecurity; digital literacy; financial literacy; digital ID; connectivity; interoperability; fair competition; and physical infrastructure.”

Her Majesty Queen Máxima, UN Secretary-General's Special Advocate for Inclusive Finance for Development





RegTech

Futuristic technologies are easing the twin burdens of risk management and regulatory compliance. The benefits are bound to flow through to the customer experience. At the same time, they also raise important questions about data ownership, consumer protection, stakeholder collaboration, and the ultimate role of humans in financial services.



Workers in Asia, Africa, and LATAM excluded from formal pension programmes

1.2 billion



248% year-on-year

Increase in InsureTech funding, reaching almost US\$1 billion by Q2 2017⁴³



Regulatory sandboxes worldwide

20+



Estimated time to a cash-free economy in Sweden

5 to 7 years



SMEs' share of the financial services loan book in Abu Dhabi

4%



Reduction in the cost of opening a bank account after India introduced a KYC biometrics system

93%

LabCFTC

Regulators have struggled to keep up with the effects of digital innovation on the world's financial markets. Recognising this, in May 2017 the Commodity Futures Trading Commission (CFTC)—the US government agency that regulates futures and option markets—launched an initiative to identify FinTech risks and opportunities.

Called LabCFTC, the new initiative aims to understand how the CFTC's regulatory framework can affect the application of FinTech.⁴⁴ As part of that effort, LabCFTC is tasked with conceptualising new technology, keeping the industry and public informed of the CFTC's thinking, and collaborating with regulators around the world. CFTC also plans to open competitions to spur RegTech innovation.

In short, just as Singapore is ready to become a more digital and effective regulator, through LabCFTC the US is ready as well.

Presented by Chris Giancarlo, Chairman, United States Commodity Futures Trading Commission (CFTC) on 15 November

Regulatory evolution

Regulators can be a partner to industry by remaining open to innovation even as regulation is being developed. To this end, some countries have an advantage. For instance, the UK's Treasury, Bank of England and Market Conduct Authority are coordinated.⁴⁵ And Singapore benefits from a single regulator, the MAS.⁴⁶

In the United States, by contrast, many different agencies drive the regulatory agenda—and they're not all in Washington. The CFTC intends to navigate this complex environment via sandboxes, proactive outreach to innovators, and teaming with other regulators. The aim is to develop protocols that enable qualified innovators to be recognised across jurisdictions.

Whatever the strategy, smart regulators will set up a reporting regime that is technologically practical and encourages compliance. They'll also seek market durability, which may be more important than stability in enabling markets to evolve. Finally, regulators must prepare to address algorithmic risk, which has been rising as big data, automation, and pattern recognition increasingly dominate the trading markets.

Discussed 15 November

Chris Giancarlo, Chairman, United States Commodity Futures Trading Commission (CFTC) and Tim Adams, President and Chief Executive Officer, The Institute of International Finance (IIF)

Regulatory insights

RegTech offers enhanced decision making, more meaningful insights, and better risk management. But it has its roadblocks as well, among them legacy IT and system constraints, cybersecurity, and data security and governance.

The challenge hasn't stopped regulatory authorities from responding to digitisation. In Japan, regulators have introduced an open API system for new companies looking to enter the financial system.⁴⁷ Sweden, meanwhile, may be cash-free in five to seven years, prompting regulators to get ahead of this consumer trend.⁴⁸ And Singapore's MAS is exploring technologies such as advanced algorithms, supervisory dashboards, more effective data analytics, and a private cloud.⁴⁹

InsurTech: Protection disruption

InsurTech is transforming the insurance industry as firms, under pressure to meet customer expectations, turn to digital solutions. Transformation will likely occur in phases given the challenges of implementing new technology in a legacy IT environment. But as efficiency gains take hold, a long-term effect may be a change in how incumbent firms are organised as they rebuild their business processes around embedded new technologies.

Digital transformation can also advance insurance and pension inclusion. For example, 1.2 billion young, low-income, non-salaried workers in Asia, Africa, and Latin America lack access to formal pension programmes.⁶⁰ Most face extreme poverty in their elder years, underscoring the need for simple, affordable pension and insurance solutions. Modern developments in inclusive FinTech can help. But any solution needs support from public policy and advocacy as well, particularly in nations where people tend to trust the government more than insurance companies.

Another wrinkle is the role of data in managing risk and tailoring the customer experience. Accurate data can be hard to come by, particularly among lower-income customers. At the same time, there's a growing trend to protect data privacy via regulation. InsurTech's challenge will be to address the first situation—perhaps with technologies such as cloud storage, machine learning, and AI—while staying in compliance with the second.

Discussed 16 November

*Dr. Andreas Braun, Managing Director, Accenture Technology, Europe, Africa, and Latin America
Parul Seth Khanna, Director, PinBox Solutions
Benoit Claveranne, Group Chief Transformation Officer, AXA
Moderated by Dan Murphy, Journalist, CNBC*

Alongside these priorities, KYC and AML are common threads. Technology can ease the ability for banks to share KYC and AML data, but bears risks associated with moral hazard, accountability for erroneous data, and reliance on software rather than human judgement. Another challenge? Working with data from overseas customers.

And then there are virtual currencies. Investors must remain alert to the risks associated with Initial Coin Offerings (ICOs). Within the industry, any failures to self-regulate are likely to be met with regulation.

Discussed 15 November
Ong Chong Tee, Deputy Managing Director, Monetary Authority of Singapore (MAS)
Motonobu Matsuo, Deputy Director General, Credit and Insurance Systems, Financial Services Agency, the Government of Japan (JFSA)
Erik Thedéen, Director General, Finansinspektionen
Moderated by Conan French, FinTech Advisor, IIF

Regulatory sandbox: Colosseum or just child's play?

A regulatory sandbox is an environment for testing financial technologies within a framework of risk management and consumer protection. Regulators set up sandboxes in order to encourage market competitiveness, investment, financial inclusion, and market infrastructure improvement. Today, there are 23 regulatory sandboxes—and that number is growing.⁵⁰

Jurisdictions conduct their sandboxes in different ways. Australia, for instance, offers a class waiver from some licensing requirements to a limited range of testing organisations.⁵¹ The Netherlands is working on a principle-based approach to its innovation hub at the Dutch Central Bank.⁵² The sandbox in Thailand uses a collaborative model where regulators proactively team with innovators. And in Abu Dhabi, where SMEs account for 60 percent of the economy but just 4 percent of financial loans, the sandbox is aimed squarely at inclusion.^{53,54}

Sandboxes enable feedback so that financial technology companies can learn how their products work within a regulatory regime. But this benefit applies to only one market unless jurisdictions work together. Recognising this, Singapore's MAS has introduced bilateral protocols and bridges to create bigger markets for FinTech players.⁵⁵ Meanwhile, the UK and Australia are in discussions to create and information sharing system of their own.⁵⁶

InsurTech: Insuring the future

Traditionally, insurers have been slow to launch new products and services because they developed them in response to large-scale global trends. But technology is prompting insurers to rethink this approach. Mobile technology, for instance, has contributed to customers' growing expectation of a more relevant experience. And AI can help make sense of the abundant data scattered across legacy systems, profiling individuals in a way that allows firms to reduce the price of risk.

Competitors, meanwhile, are taking notice. The result is that incumbent firms are increasingly looking to disrupt themselves before InsurTechs do it for them.

All this points to a changing talent base for the industry. Insurers are shifting more of their hiring to customer-focused teams. They're also placing greater emphasis on working environments that promote openness, diversity of thought, truth, and ethics.

At the same time, traditional roles are evolving. Actuarial processes are prime candidates for automation and machine learning. Pricing and analytics are targets for AI. Brokers, some of them, will give way to bots—although there will always be customers in need of a human touch.

Discussed 16 November
Al-Noor Ramji, Group Chief Digital Officer, Prudential
Julie Batch, Chief Customer Officer, IAG
William Fung, Co-Chief Executive Officer, AMTD Strategic Capital Group
Moderated by Murray Raisbeck, Global InsurTech Leader, KPMG

An effective sandbox depends on standards, both regulatory and technology-related. Regulatory standards should include consumer protections on top of what, ideally, would be an international standard of essential sandbox attributes. Technology standards would be something that the industry, not regulators, would establish.

Discussed 15 November

Buncha Manoonkunchai, Senior Director, Financial Technology Group, Bank of Thailand

Mark Adams, Senior Executive Leader of Strategic Intelligence, Australian Securities and Investments Commission (ASIC)

Mirel ter Braak, Senior Policy Advisor, Netherlands Authority for the Financial Markets

Richard Teng, Chief Executive Officer, Financial Services Regulatory Authority, Abu Dhabi Global Market (ADGM)

Moderated by Dan Morgan, Director, Policy and Regulation, Innovate Finance

Risk and liability

What do fraud, corruption, and misselling have in common? They're all key risks of financial innovation. Toss in cybersecurity and data privacy concerns, and the industry has a plateful of worrisome exposures.

Data privacy, in particular, is a complex issue. It's burdened with legacy challenges from enterprise data management, not to mention lack of clarity around who has responsibility for protecting it. It takes human intervention to understand the data, craft internal firm policies to manage it, and develop the frameworks to regulate it.

Third-party risk is another concern. Banks have an evolving relationship with FinTech companies, creating a need for enhanced internal data policies along with regulator guidance on engaging cloud technologies.

Discussed 15 November

Andres Portilla, Managing Director, Regulatory Affairs, IIF

Melissa Koide, Founder, RegTechLab

Mark Whitcroft, Founding Partner, Illuminate Financial Management

Jim Lord, Chief Executive Officer, General Counsel, and Co-founder of Compliance Strategies International

Moderated by Jo Ann Barefoot, Chief Executive Officer, Barefoot Innovation Group

Hackcelerator product demonstrations: RegTech

VoxSmart is an ISO-certified platform that provides insights into user behaviour in order to detect and anticipate fraud committed by mobile phones. The platform can record all communication on mobile devices and store the data in the cloud. There, the data can be catalogued, analysed, and displayed. VoxSmart also transcribes data and issues alerts, maintaining a full audit and history of every data point.

Solus Connect enhances security and prevents mobile phone fraud. It captures over 2,000 attributes related to how individuals use their phones. This creates a profile score that demonstrates whether the user is the phone's real owner (low scores indicate potential fraud). Once authenticated, users may complete their transactions via biometric security.

Dathena enables financial institutions to use AI for due diligence on potential customers. The platform analyses unstructured data and provides a dashboard of key results based on risk assessment, real-time alerts, and relationship analysis. Dathena tracks positive and negative events over time, and illustrates what is happening to the firm from a risk perspective.

Apiax transforms complex regulations into easy-to-use digital compliance rules published via an API and onto mobile devices. The knowledge comes from experts and a bank's own regulatory teams. Using machine learning, Apiax codifies this knowledge into rules that are easy for users to understand while enabling them to manage risk.

Trunomi is a platform for customer consent and data rights management. Through the application, a firm can ask customers for specific data. The platform issues a certificate that authenticates and authorises the customer's data to another party. This then becomes a single, immutable source of data for the customer.

KYC for the digital age

Technology is reshaping KYC. Machine intelligence works with unstructured documents to complete compliance processes. Advanced analytics tools predict and identify bad behaviours. And multi-factor authentication, such as biometrics, are helping to make digital identity a reality.

It's no secret that KYC can be time-consuming and costly, and governments are starting to apply technology to address this. Singapore is rolling out a national digital identity-based KYC utility that could slash processing time by as much as 80 percent.⁵⁷ In India, a biometrics system has reduced the cost of opening a bank account from US\$15 to US\$1.⁵⁸

There's a significant need for international coordination as well. Corporate KYC is starting to cross borders, and some firms are building technology solutions to support that.⁵⁹

Individual KYC is another matter, however. One issue is that data privacy and protection rules vary by jurisdiction, making it tricky to pool data across borders for financial crime prevention. There's also the emergence of self-sovereign identity, or the idea that individuals own their data and control its flow. This is raising questions about privacy and who has the right to monetise an individual's data. Resolving these questions will help clear the way to good governance, consumer protection, and KYC harmonisation at the global level.

Discussed 15 November

Anju Patwardhan, Senior Partner for FinTech Investment Fund and FOFs, CreditEase

Hiroimi Yamaoka, Director-General, Bank of Japan

Jay Collins, Vice Chairman, Corporate and Investment Banking, Citi

Moderated by David C. Scott, Partner, Financial Services, Ernst & Young





Tech risk

The future of finance may lie in technology, but technology itself is full of risk. And not all risks are created equal. Given the business consequences of loss or disruption, organisations must look after their most important assets—including reputation, user confidence, and the delivery of service.



Financial services customers that spot fraud

75%



Governments issuing cybersecurity laws

90



Number of regulatory schemes in development among G20 countries

55



US\$59 billion

cost for cyber attack, same as Superstorm Sandy⁶¹



164% increase in data breaches in the first six months of 2017⁶²



US\$1 trillion

to be spent on cybersecurity over the next five years, from 2017 to 2021⁶³

Application programming interface (API) security

After decades of building APIs, businesses are turning their attention to shoring up security. The result has been advancement in key technology areas. These extend beyond API security protocols to include infrastructure models, identity and access management, and software development and operation (DevOps).

All of these are considerations when developing a coherent API security strategy. For reducing attack surface and attack vectors, for example, one approach is to maintain fewer API portals and technology stacks. For establishing trust, blockchain solutions may prove to be the gold standard. And for managing the DevOps API lifecycle, firms can build in security controls by making capability and process mapping part of the requirements development process.

Whatever the strategy, the chief motivator is to free APIs to do what they need to do. This means a new governance process, since the risk implications of APIs are very different from those of applications. For one thing, a single API can serve multiple consumers, businesses, and processes, each with its own risk profile. What's more, APIs can be run from multiple locations using multiple authentication providers. With APIs as decentralised as they are, firms may find it practical to decentralise ownership of the security model as well, by creating security APIs for application developers to use.

Presented by Christopher Hall, Global Deputy Chief Information Security Officer, BNY Mellon on 14 November

Cyber red teaming

Cyberattacks are not an amateur's game. Perpetrators—be they criminals, nation-state groups, activists, terrorists, or insiders—are generally quite skilled.

Organisations need to up their own game in response. One approach? Red teaming, a process based on studying and understanding the adversary.

Red teams include experts in intel analysis, planning, execution, reporting, and communication. They mimic attacker techniques such as exploitation and social engineering to penetrate an organisation's defences. For certain exercises, red teams may include trusted agents as well—that is, people who have compartmentalised knowledge of the event timeline and scenario, and can be trusted to maintain the integrity of the exercise.

A red team exercise is well planned, starting with intelligence on adversaries and their tactics, techniques, and procedures (TTPs). One goal is to look for weaknesses in technical controls and cybersecurity response procedures. Another goal is to test the response from defenders (blue teams), which is why red teams often carry out exercises without the blue team's knowledge.

The Global Financial Markets Association (GFMA), the Bank of England, and the HKMA have all put out red teaming methodologies. Regardless of methodology, it's important to prioritise identified issues and train defenders. Firms should consider going for small wins, documenting action plans, tracking progress, and retesting to validate corrective actions.^{64,65,66}

Presented by Charles Blauner, Managing Director, Global Head of Information Security, Citibank on 14 November

Cyber resilience through self-healing technology

What is cyber resilience? By one definition, it's the ability to anticipate, withstand, and recover from cyberattacks—then adapt to keep them from happening again.

A key to achieving cyber resilience is to create systems that are self-diagnosing and self-healing. Cognitive systems can achieve the former by looking for threats and analysing them. Such systems have specifically helped reduce the number of false positives identified in security screening.⁶⁷ As for self-healing capabilities, undirected learning systems are nearing practical availability.⁶⁸

Organisations can automate essential security tasks by embedding controls and processes into the development process. This approach, called DevSecOps (DevOps with integrated security), at first focused mainly on automating code security and testing. But now, thanks to cognitive technology, it can include controls that are capable of deciding what the system ought to do. Eventually, the system learns what's right and what's not.

This reasoning power, combined with testing and inline security protections for when the system might fail, can help companies create systems that stand up to an environment of complex security threats.

Presented by Douglass Wilson, IBM Distinguished Engineer, Chief Technology Officer for Vulnerability, Risk, and Compliance Products, IBM Security on 14 November

Cybersecurity in the age of FinTech and digital business

Building a sound defence strategy brings financial firms face to face with several challenges. One is a supply chain increasingly dominated by smaller players, most of whom lack expertise in financial systems security and controls. Another challenge is a customer base that expects to use their own solutions, in real time, without having to deal with a burdensome security process. Finally, there's the rapid adoption of cloud-based platforms that bring third, fourth, and even fifth parties into a financial institution.

To address these challenges, firms must do more than understand the business risks and define policies around them. They also should create a fast track for solutions and capabilities. This includes quickly evaluating service providers and offering guidance, preferably in the form of an API or code. It also includes appropriate oversight of outside parties.

Customers can be a resource in this effort. According to a recent JP Morgan survey, 75 percent of customers report seeing fraud in financial services.⁶⁹ A process to engage customers can empower them and enable financial institutions to bolster their defence with customer-defined controls.

Another resource is, of course, the internal workforce. Security teams should thoroughly understand the corporate strategy and the business so they can educate people on current and emerging threats. Business users should know that they're responsible for the data they load onto cloud platforms. The message to take away is that the firm expects to protect its data no matter where it resides.

Presented by Rohan Amin, Global Chief Information Security Officer, JPMorgan Chase on 14 November

Enhancing IT security awareness within an organisation

IT security tends to focus on technology controls at the expense of people and processes. This is a problem for several reasons. One is that, without training, technology controls are rarely as effective as they could be. They're often expensive as well, and their availability and maturity can lag behind the threats they're supposed to address.

Technology controls can also get in the way of productivity, collaboration, or other valuable activities. In other words, people may bypass them, and this leads to an important point: People may be one of the weakest links in an organisation's IT security.

Firms can deal with this one of two ways. They can treat people as a risk to be managed. Or they can take the mindset that people are controls themselves—that is, they can help with breach prevention and detection. A programme to promote awareness can lasso this capability and foster a community of learning around sound cybersecurity practices.

An effective awareness programme accomplishes several things. It considers employee psychology, relevancy, and the learning needs of its audience. It also uses tried-and-tested techniques and simple programme designs. Finally, it provides a safe environment for employees to get and share information.

Properly educated, people can become one of the most powerful assets to IT security. An awareness programme that enables employees as breach detectors can close an often-overlooked gap in a bank's cybersecurity strategy.

Presented by Cheri McGuire, Group Chief Information Security Officer, Standard Chartered Bank on 14 November

FS-ISAC

The Financial Services Information Sharing and Analysis Center (FS-ISAC) is a membership organisation that serves the global financial services industry. Its mission is to analyse and share cyber and physical security intelligence.

Back in 2006, FS-ISAC adopted the traffic light protocol.⁷⁰ The protocol states that whoever originates information on cyber and physical threats can determine how information is shared within a network. This encouraged firms to open up about the attacks they were experiencing.

However, the group remained closed to organisations without a US presence. This changed in 2012, when a UK payments processor applied to join.⁷¹ FS-ISAC approved the UK firm's application on the condition that it develop universal criteria so that similar firms could join as well.

In early 2013, FS-ISAC extended its charter to share information among financial services firms worldwide.⁷² A team from MAS took notice and approached FS-ISAC's leadership about setting up an operating centre in Singapore. The Asia Pacific (APAC) Regional Intelligence and Analysis Centre opened its doors this year.

In addition to intelligence and analysis, FS-ISAC provides members with crisis response exercises, summits and other events, education, and training. The group also exchanges data with other organisations. For instance, FS-ISAC recently teamed up with Interpol to share cybercrime information, trends, and know-how with the global financial services community.

FS-ISAC have embedded staff in the National Cyber Security Centre at the UK Government Communications Headquarters, along with the National Cybersecurity Center at the US Department of Homeland Security. The organisation also is part of the Global Resilience Federation.

Presented by Bill Nelson, President and Chief Executive Officer, Financial Services Information Sharing and Analysis Center (FS-ISAC) on 14 November

Insuring against cyber crime

Even the best cybersecurity measures can fail. When they do, cyber insurance is the backup for the financial implications that arise.

But cyber insurance can be tough to write. One issue is a lack of data for pricing policies. MAS has taken up an initiative to help the insurance industry develop actuarial models to understand cyber events and price insurance policies accordingly.

Accumulation of risk is a concern as well. Insurers need to know whether cyberattacks will affect a large number of countries and so drive greater exposure on their books. Dealing with outlier events is less a concern of adequate capital than one of appropriate capability.

Another challenge: Many firms are unsure whether they actually have cybersecurity coverage. It depends on whether insurance contracts include or exclude cyber perils. However, firms might not realise that, and as a result they could be exposed to loss.

And then there are FinTech companies. Like financial institutions, they have large data volumes, which put them on the high side of exposure. Unlike financial institutions, however, they tend to have less-vigorous security measures and risks that are unfamiliar to insurers. This is especially so for startups—it's hard enough for non-technical people to understand what cryptocurrency companies do, for example, much less create policies for them.

In any case, the landscape is changing. Financial technology is becoming more rigorous and more regulated, and this will bring positive change to the world of cybersecurity insurance.

*Presented by Murray Wood, Head of Financial Specialties, Asia, Aon Risk Solutions
Andrew Mahony, Regional Director, Financial Services and Professional Group, Aon Risk Solutions on 14 November*

National cyber resilience: The Singapore case

This year on National Day—Singapore's annual holiday to celebrate its independence from Malaysia—Prime Minister Lee Hsien Loong announced a Smart Nation initiative to improve electronic payments. The plan reflects the importance of technology to the future of finance. Just as importantly, however, it brings cybersecurity and risk management to the forefront.

Digitised financial tasks are embedded in daily life. People around the world have come to rely on mobile payments to send money to family members, colleagues, friends, and many others at the touch of a finger. This translates to an increasing reliance on core infrastructure and networks for financial processing. A cyberattack on this ecosystem is potentially devastating.

Cyber resiliency assumes breaches will happen. It emphasises an early response. The aim is to minimise disruption for all members of the ecosystem—a core tenet of any regional financial hub. Given how attractive the financial sector is to attackers, national and international cooperation are essential to remaining resilient.

Singapore's cybersecurity strategy aims to create this kind of stability.⁷³ On top of that, the MAS has created a regulatory sandbox so that FinTechs can work toward enhancing cyber resiliency in the ecosystem.⁷⁴

Security by design, although hard to retrofit to legacy platforms, remains a best practice for building new ones. But cost is a challenge. Over the long term, cyber resiliency is an investment that will pay off in enhanced reputation and product viability.

Presented by Teo Chin Hock, Deputy Chief Executive, Cyber Security Agency of Singapore (CSA) on 14 November

Cybersecurity policy challenges: 2025 and beyond

Technology advances are exciting—but they're also disruptive. Consider the trajectory of mobile payments. In 2012, mobile phone payments in China totalled US\$80 billion.⁷⁵ By 2016, that figure had risen to US\$2.9 trillion.

But people want security along with all that convenience, and governments have responded with regulation. So far, 90 governments have issued laws around cybersecurity.⁷⁶

This activity has led to some major challenges. One is regulatory fragmentation. Among G20 countries, 55 regulatory schemes and 35 supervisory schemes are in development, raising questions about how to manage regulation at scale while maintaining continuous security.⁷⁷

Another is the systemic effect of technologies like blockchain and AI. For example, AI can solve supply chain issues—but it can also displace jobs. The challenge here is to build a system that benefits one or more areas without undermining another.

And then there's the current state of world affairs. The US National Security Agency has revealed that 30 to 40 countries have offensive capabilities in cyberspace that are built into IT products. These countries are also big spenders when it comes to acquiring vulnerabilities, creating a situation that governments and the private sector may have to come together to address.

Presented by Paul Nicholas, Senior Director, Microsoft's Trustworthy Computing on 14 November

Proactive security through cyber threat hunting

In today's rapidly-changing threat environment, an adaptive posture is essential. Firms need to know what they're hunting for and what they're up against.

The first step of this process is to understand the firm's cyber threats and level of risk. Next is to prioritise countermeasures, then carry them out based on the available intelligence.

But gathering that intelligence—such as searching through business networks to detect and isolate advance threats that evade existing security solutions—is still taking a back seat in most organisations. The typical security operation centre (SOC) still spends the vast majority of its time on data enrichment and validation, and on ticketing and reporting.

SOCs must be more proactive and efficient. This requires automating repeatable tasks and accelerating responses to create time for higher-order tasks. Once that's done, they can set about gathering the intelligence that will form the basis of every security decision.

Presented by John Watters, Executive Vice President, Global Services and Intelligence, FireEye on 14 November





Data analytics and applications

Digitisation is changing financial services from the inside out. Institutions are extracting insights from ever-larger data sets and applying them to tough business challenges. Regulatory authorities are laying the infrastructure for innovation, integration, and economic development. And FinTech companies themselves? They're forging new connections—customers with financial services, government with industry, and institutions with other institutions.



By 2015, analytics and Internet of Things to drive data volumes to

163 zettabytes⁷⁸



CDOs

Chief Data Officers on the rise⁷⁹



Proportion of trade financing due to offshore-to-offshore trades

60%



First year when venture capital raised more funding in the private market than in the public market

2016

How did we get here?

Banks are no strangers to data—they've worked with it for decades. What's new are the benefits data can yield to technology. Today, these benefits include reduced infrastructure and storage costs, access to previously-unavailable data points, and real-time access to information.

Thanks to advancements in data analytics, financial institutions can match recommendations with customers' whereabouts and spending patterns. They can also investigate suspicious transactions flagged by AML systems and scan analyst reports to identify market sentiments.

Still, data quality is an issue, due to disparate legacy infrastructure and the credibility of external sources. And financial institutions, like other business organisations, struggle to roll out data analytics capabilities. Much of the challenge has less to do with technology than with the ability to bridge the gap between data science and the business.

Discussed 14 November

Donald MacDonald, Head, Group Customer Analytics and Decision, OCBC Bank

Kevin Lee, Head, GIC Labs

Richard Lowe, Chief Data Officer, United Overseas Bank

Mike Blalock, General Manager, Financial Services Industry, Intel

Moderated by Diana Parades, Chief Executive Officer, Suade

It's showtime!

FinTech can support organisational objectives through a variety of technologies. PayPal, for instance, uses analytics to segregate their customers into meaningful segments for targeted marketing actions. Intel applies deep learning technologies to predict the possible movement of the stock market through the analysis of past events and behaviours. And SAS helps customers manage their data so they can gather insights from it and use the insights to solve existing problems.

Discussed 14 November

*Abhi Gupta, Head of Marketing Analytics, Paypal
Deepak Ramanathan, Chief Technology Officer, SAS
Fiaz Mohamed, Head of Business Development, AI Products Group, Intel*

Laying the bricks

Smart Nation is Singapore's national effort to support better living through technology. Big data analytics are an important part of this initiative. The opportunities it offers are an outcome of people, processes, skills, and strategic thinking.

Although many data-rich companies use only a small fraction of their data, analytics could help turn this around. For example, they could identify new customer segments or new ways to serve existing segments.

One important capability of big data analytics is visualisation, which lets users identify problems in the data and consider the remediation to be performed. Another is predictive analytics, which can anticipate future events such as when certain automatic teller machines will have mechanical problems, or which employee is likely to exhibit unusual behaviour.

But big data does have its risks. Data privacy compliance and cross-border data transmission run up against differing rules and regulations. For large financial institutions, this makes customer acquisition a delicate issue as the cost of non-compliance can exceed the incremental benefit of marginal customer acquisition.

Regulators can help organisations working with big data understand their boundaries so they can move forward while staying compliant.

Discussed 14 November

*Vasant Dhar, Professor, Centre for Data Science, New York University
Paul Cobban, Chief Data and Transformation Officer and Managing Director, Group Technology and Operations, DBS Bank
Kevin McCarthy, Chief Customer Officer, DemystData
Simon Kirby, Director, SI Industry Solutions, Financial Services, Qlik
Moderated by Jojoy Mathew, Coleader, FSI Analytics and Information Management, Deloitte U.S.*

Applied predictive technologies

As a way to answer business questions, analytics faces three key challenges. One, real-world data is extremely noisy. Two, departments within an organisation may pursue clashing methodologies. Lastly, business moves fast, making it difficult for analytics to keep up.

Addressing these challenges calls for the scientific design of experimentation. This requires the right data and control group, along with an analytics capability that's centralised—often in the office of the CFO.

Discussed 14 November

*Scott Setrakian, Managing Director, Applied Predictive Technologies
David Horton, Head of Innovation, Synechron*

Banking's road to digitisation

Unlike FinTech companies, which are digital-first, incumbent banks have a legacy infrastructure they can't just sweep away. Any digitisation effort must contend with this reality.

Three big concepts can make digital work. One is to be digital to the core. For incumbents, that can mean revamping the data centre, creating a strong engineering bench, and shoring up security. It can also extend to enhancing APIs.

The second big concept is for banks to embed themselves so that their services are intuitive, intrinsic, and invisible to the customer. One way to do this is via human-centred design—a methodology to understand what customers really want to do, and letting that drive the products.

The final concept is to transform the firm into a FinTech startup. Not possible? Think again. Incumbent firms may have thousands of employees and many years of history, but they still can be customer-obsessed, data-driven, and willing to experiment. The same goes for agility and being a learning organisation.

Presented by Tan Su Shan, Group Head, Consumer Banking and Wealth Management, DBS Bank on 16 November

Innovation in trade finance: The potential for transformation

Trade finance is beset with challenges. Chief among them are changes in the regulatory environment, where know your transactions (KYT) processes have supplanted KYC as the number-one concern. This makes sense considering that while KYC is performed once a year, KYT must take place every time a transaction does. This creates an enormous volume of data to process.

Leading regulators are pushing for progress. Through Project Ubin, for example, MAS and the financial services industry are collaborating to explore the use of DLT for clearing and settlement of payments and securities. Meanwhile, MAS and HKMA are developing the Global Trade Connectivity Network, a DLT-based infrastructure to digitise trade and trade finance between Singapore and Hong Kong initially, with the potential for expansion. Add a trade platform for permit declaration and trade logistics, and the industry may finally have the foundation for a digital trade finance ecosystem to flourish.

First, however, there are several technological challenges to overcome. One is data privacy. Others are interoperability as well as scalability and performance of the digitisation process. The development of common standards—a job for governments and the industry—would go a long way toward solving these problems. So would the involvement of agile FinTech startups.

But trust may be an even bigger challenge than technology. Some 80 to 90 percent of world trade relies on trade finance (trade credit and insurance/guarantees), mostly of a short-term nature with a majority being offshore-to-offshore.⁸⁰ To digitise this activity, global regulators must agree on a way to establish mutual trust in a cross-border trade finance system.

Discussed 16 November

Li Shu-pui, Executive Director, Hong Kong Monetary Authority (HKMA)

Bernard Wee, Executive Director, Monetary Authority of Singapore (MAS)

Gianfranco Casati, Group Chief Executive, Growth Markets, Accenture

Tan Kah Chye, Founder, Tin Hill Capital

Moderated by Finbarr Bermingham, Asia Editor, Global Trade Review

The tailor's journey

A tailor opened a roadside shop with his own money. The business prospered. Before long, a pair of employees worked by his side.

Then one day, the tailor received some bad news: Authorities planned to widen the road. His shop had to go. The tailor eventually managed to rebuild his business at his one-bedroom house, but by then the two jobs he had created were gone.

This man is a nano-unicorn. His outlook is different from a traditional unicorn, which raises large valuations to enrich a few. Still, he's an entrepreneur—and a prospective employer.

Unfortunately, people like the roadside tailor have a hard time securing funds from financial institutions. By creating access and trust, FinTech can help turn this around. Add one or more partners—from industry, government, or elsewhere—and the stage is set for a flourishing community of like-minded founders.

Presented by Subroto Bagchi, Cofounder, Mindtree on 16 November

Hackcelerator general product demonstrations

PayKey enables banks to provide users with a way to transfer money inside a social media app such as Facebook Messenger, WhatsApp, and Twitter—all without having to share details of the recipient's bank account. Users can initiate a range of financial services, including P2P payments, balance check, cardless cash withdrawal, and more.

ERNIT teaches children the value of money. It does so by connecting a piggy bank to an app with a real-time bank account. The system lets children aged four and up set goals, do chores, and follow their progress over time. Through the app, parents, grandparents, and others can transfer money directly from their app into the child's ERNIT piggy bank. ERNIT notifies the child via light and sound.

Moxtra is a mobile, embeddable cloud service that lets people and businesses collaborate the way they want to—real time or anytime. Moxtra's omnichannel customer engagement solution provides a way to deliver relationship and wealth management services, along with digital customer services in the financial services industry.

SnapCheck eliminates paper cheques. Its blockchain-enabled platform lets users send secure digital cheques instantly, directly from their mobile or online banking account or from their preferred accounting software. SnapCheck combines the strength and security of electronic payments with the ubiquity of cheques to save costs, speed settlement, and eliminate fraud.

Smartfolios is a business-to-business digital advisory and investment platform for financial institutions. The company creates tailor-made investment solutions to fit the specific needs of brokers, banks, wealth managers, and financial advisors. Portfolios range from asset allocation to thematic and quant investment models, with an aim to deliver enhanced risk-return investment solutions.

Privé Managers is a digital platform for financial institutions that makes private banking accessible for everyone. The platform is an end-to-end, digital plug-and-play solution focused on content, clients, custody and execution, and investment. Clients receive content they're interested in, can track their goals and plans, use a portfolio generation tool, and perform advanced analytics.

Lingua Custodia is an AI-enabled translation solution. Imagine that a credit analyst at a global bank needs to read a Chinese financial analyst's report. The analyst can upload the report to a portal with 30 different report engine types and generate a translation on demand. Lingua Custodia has been on the market for five years and covers Asia well.

SQREEM collects data from online traffic, searching, blog content, social media, news, and mobile apps, then aggregates it. Through analytics, the platform can understand a consumer's path to purchase and the products they're likely to buy. Furthermore, SQREEM can extract insights on all segments anonymously, legally, and passively.

Kyckr serves as a global authority for corporate identity. The platform has real-time connections to registries worldwide through APIs that assist with customer onboarding for financial institutions. Kyckr also supports services such as cleansing, remediation, and monitoring following completion of initial KYC tasks.

Mercurien is a platform that provides insurance companies with behavioural traits that affect their customers' driving. Drivers use an app for automatic processing of driving trips that monitors their movements. The app can understand personal risk relative to others, as well as help coach drivers to improve their driving with SMS-tailored communications. Claims and evidence collection all occur through the app.

Capital markets

Capital markets include a wide spectrum of activities, both primary (fundraising) and secondary (trading). Traditionally, these activities have been reserved for institutions. But technological advances are opening up opportunities for FinTech companies.

One opportunity is to bring more transparency to investment decisions. Ordinary investors often end up paying higher prices because capital markets, with their many intermediaries, can be difficult to understand. Technology can educate customers and help them navigate the market's complexities.

Venture capital is another opportunity. Although funds raised in the private market surpassed that of the public market for the first time last year, venture capital remains an asset class available only to a few.⁸¹ Democratisation, aided by FinTech, can benefit investors and companies alike.

However FinTech plays out, though, it's unlikely to change the fundamentals of capital markets. While blockchain (for example) offers post-trade efficiencies, it doesn't eliminate the need for an exchange to enable price discovery, execution, and settlement. Firms that deliver results on these fronts will continue to do well.

Discussed 16 November

Kaidi Ruusalepp, Founder and Chief Executive Officer, Funderbeam

Robert Lempka, Co-founder and Chief Executive Officer, Ayondo Group

Muthukrishnan Ramaswami, President, Singapore Exchange Limited (SGX)

Denes Ban, Managing Partner, OurCrowd

Moderated by Sassan Danesh, Chief Executive Officer, E-trading Software

"Collaboration is the new way of competition in the realm of FinTech."

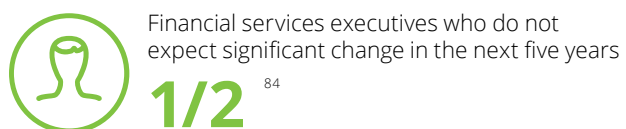
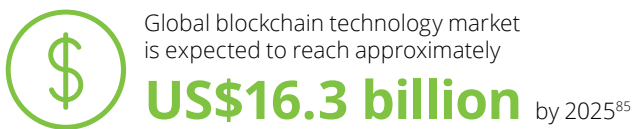
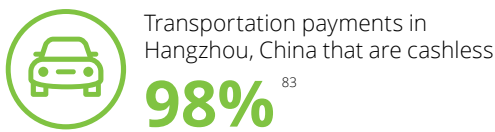
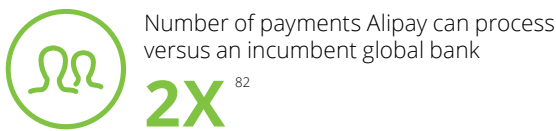
**Bernard Wee, Executive Director,
MAS**





Looking to the future

The future of FinTech is one of unknowns. But it's possible to anticipate some things. Customers will take centre stage. Regulators will direct the scene. And incumbents and innovators will be caught up in a symbiotic relationship—part collaborators, part competitors, and in all ways contributors to a digital future beyond what we could imagine in the present day.



The future by MIT Media Lab

Financial systems are engineered, not organic. But like the earth, they require multiple currencies to make them work. No part is autonomous, even if it claims to be.

The internet is an interdependent system. It began with non-profit layers designed for people to communicate with one another. Eventually it drew interest from others, and all came together to build more layers, ensuring the system's sustainability.

The next layer, bitcoin, will soon see standardised protocol. Ideally, bitcoin will use a single blockchain—but for that to happen, the many players entering this ecosystem will need to organise. The layers likely to follow bitcoin include smart contracts, equity and derivatives, and centralised exchanges. These too will need to be done right if they are to make financial services more available and efficient.

Right now, this is a concern. The rate of technology advancement isn't keeping up with the rate of investment. The result is technology built on top of a stack that is shaky from a protocol perspective. The financial services industry must think about how to improve the underlying system, rather than simply handing the system for entrepreneurs to build up. The goal should be to make these technologies open and safe for everyone.

Presented by Joi Ito, Director, MIT Media Labs on 14 November

The future by Deloitte

People are slow to change their habits. Contactless cards were met with suspicion when introduced in 2007. The cheque, introduced almost 300 years ago, is still widely used today.

But change takes hold eventually. In east Africa, more than six billion mobile transactions were processed during 2016.⁸⁶ In China, some FinTech companies are valued at US\$60 billion—about the same as UBS AG, Switzerland's largest bank.⁸⁷

How big an impact the financial services industry expects from these trends is an open question. A recent Deloitte global survey of 200 financial services executives found that 47 percent do not expect significant change in the next five years.⁸⁸ At the same time, they expect to see talent shortages in the areas of innovation, risk and compliance, and IT.

Other questions remain. Among them: The rise of digital identity, the monetisation of data flow, and the gap between technology and governance. There's also the matter of transparency in the new systems along with the likelihood that financial services firms will use technology to solve long-running partnership and collaboration issues.

With a future where collaboration is normal and agility is critical, perhaps the one thing we can expect is more questions than answers.

Presented by David Cruickshank, Chairman, Deloitte Global on 15 November

The meaning of innovation

For all the talk about disruption, the source of innovation is really quite basic: The needs of customers and markets. Innovation happens by meeting these needs in a unique way, via technology or a new business model.

That said, constant exposure to new ideas helps innovation along. Because change is uncomfortable, organisations might do well to develop a culture that embraces discomfort. That way, people are forced to question their assumptions and conduct more experimentation and research.

A vibrant ecosystem of technology companies—one where diversity and purpose are more important than size—can help with the exchange of ideas. But the companies themselves must stay relevant. A single profitable idea can be captured by others all too easily, so companies must constantly challenge themselves to remain unique.

Discussed 15 November

Grady Booch, Chief Scientist for Software Engineering and Watson/M, IBM Research

Vanitha Narayanan, Chairman of IBM India and Industry Academy Advisory Board Member

Moderated by Staci Warden, Executive Director, Milken Institute

Investing in the future

The financial services industry is fertile ground for disruption. In fact, capital markets got its start in a similar way to FinTech—from a group of people who had better ways of transacting. There's also the example of the 1990s automation of equity trading markets.

But back then, incumbents set the pace of innovation. Today innovation can come from customers, new market entrants, and forces from other industries. Unconvinced? Consider how many industries—including financial services—changed as a result of the iPhone's 2007 launch.

In the same way automation brought down the cost of manufacturing many years ago, so it will bring down the cost of financial services today. It may happen even faster, with prolonged cheap capital prompting more people to take risks.

Presented by Vikram Pandit, Chairman and Chief Executive Officer, The Orogen Group on 15 November

Convergence in financial services

Countries are adopting FinTech at different rates. Consider China, where people can donate to temples and even street performers using digital payments. Even so, everyone is heading in the same direction.⁸⁹

Today there are two kinds of financial services. One includes activities that are more transactional, such as payments and loans, which FinTech firms seem poised to take over. The other kind is more strategic, such as financial planning. Banks may retain this second group of financial services, although technologies like AI could blur the lines.

Talent is another point of convergence. Machine learning is likely to automate repetitive tasks, forcing talent into more value-added work. Governments may have to help re-skill people, lest too many be left behind.

Discusses 15 November
Calvin Choi, Chairman, AMDT
Vikram Pandit, Chairman and Chief Executive Officer, The Orogen Group
Kai Nargolwala, Chairman, Prudential Corporation Asia
Moderated by Manisha Tank, Journalist, CNN

The role of partnerships in emerging technologies

In many industries, few organisations are able to succeed without partnerships. That's because few can meet the full range of consumers' needs on their own. However, banks have historically been an exception to this rule.

That's about to change. As emerging technologies become more vital to success, firms will become more adept at coordinating the partnerships they need to live up to customer expectations.

One place to start is with partnerships where little competitive tension exists. Such partnerships, assuming there's mutuality, are more likely to add value to all parties involved—including consumers. While startups are an important resource, it's worth looking to technology giants as the bar for customer and user experience.

Discussed 15 November
Maile Carnegie, Group Executive, Digital Banking, ANZ
Moderated by Laura Noona, Investment Banking Correspondent, Financial Times

Tips for FinTech startups

Starting a business, particularly in FinTech, is never easy. But previous ventures have yielded a number of tips that today's fledgling companies can put to good use.

First, give employees shares or share options—particularly if little money is available. This encourages a sense of ownership, passion and responsibility. Next, talk to customers before designing solutions. You'll gain buy-in, guaranteed sales, and market advocates for the time when you go live.

Quarterly update reports are a good idea as well. They needn't be long, but should be candid, restrained, and clear. They also should be widely available to employees, investors, and partners so they can spread the word. Next, a strong board of directors is in order. This not only provides good governance, it helps to source funding, deals, and other assets to the business.

Finally, it never hurts to be a humble, inclusive leader. Under management by fear, both performance and company reputation will suffer. On the other hand, trust, openness, and mutual respect generate the relationships that lead to a rock-solid brand.

Discussed 15 November
Sir Terry Matthews, Executive Chairman, Wesley Clover International
Moderated by Manisha Tank, Journalist, CNN

FinTech founders: The new and originals

It's easier than ever to build a new FinTech venture today. Given all the venture capital firms supporting innovation, few FinTechs need a large upfront capital investment. Cultural attitudes have changed as well—there's now less stigma around failure. And progressive regulators like MAS in Singapore or the CFPB in the United States provide a strong framework for innovation.

Incumbent institutions are another resource for founders. They can provide liquidity. What's more, working with them is an unavoidable reality of the financial services ecosystem.

Startups can navigate this by becoming the best in a highly focused niche. Once they establish their reputations, they can set about crossing verticals, and finding value and power in rebundling.

Discussed 15 November

Ron Suber, President Emeritus and Senior Advisor, Prosper Marketplace

Renaud Laplanche, Co-founder and Chief Executive Officer, Upgrade

Michael Stumm, Co-founder, Oanda

Nikolay Storonsky, Chief Executive Officer, Revolut

Moderated by Laurent Nizri, Founder, Paris FinTech Forum

The regulator's role in FinTech

Regulators don't regulate innovation. Their job is to look at activities. That said, they can provide a sandbox environment for innovators to make their products better—and to learn how to work with regulators.

Optimism aside, progressive regulators have had their disappointments. Financial inclusion has not come together as much as hoped. Small and mid-sized banks have been neglected. FinTech has been working in too few markets.

And talent is a primary challenge. All of financial services is shifting to digitisation, leading to a demand for engineers. But right now, the smart engineers are managing technology vendors, not building the technology. This needs to turn around, with the industry putting its efforts toward training and building a pipeline of talent.

Another challenge is the stigma attached to entrepreneurs in some Asian countries. Risk-taking doesn't always have cultural support. Beyond that, there's often no one to back the entrepreneur—investors are conservative compared with Silicon Valley. They should become more involved, and policies should be in place to provide protection around failures, if this situation is to change.

Discussed 15 November

Sopendu Mohanty, Chief FinTech Officer, Monetary Authority of Singapore (MAS)

Moderated by Pat Patel, Content Director, Money2020

Asian FinTech founders

FinTech entrepreneurs offer a number of lessons for founders in Asia.

An initial coin offering (ICO), for example, recently raised US\$105 million but proved a humbling experience. Currently, there are 200 active ICOs, some of which are underperforming, and investors are experiencing ICO fatigue. Another entrepreneur of 10 years suggests taking on different roles at the start of a venture. That may include digging into the product code in order to solve problems and roll out solutions more quickly.

Unsurprisingly, founders often have certain personality types. One found himself selling to friends during his teen years. Others, frustrated with the limitations of employment in a large corporate matrix, took significant paycuts and increases in workload to start their businesses.

Talent is a critical success factor among startups. Founders must learn to delegate and hire people smarter than themselves. Moving from a small team working on an idea to a large one carrying out implementation requires the right talent to come along on the journey.

Discussed 15 November

*Justin Lie, Founder and Chief Executive Officer, Cashshield
Nicki Ramsay, Founder and Chief Executive Officer, CardUp
Shailesh Naik, Founder and Chief Executive Officer, Matchmove Pay*

Mike Kayamori, Cofounder and Chief Executive Officer, Quoine

Moderated by Pat Patel, Content Director, Money2020

The curious case of unbundling and rebundling in financial services

What is open banking? Nobody really knows. It could be unbundling the products and services that customers receive. It could also be rebundling them using components from the FinTech ecosystem.

The argument for unbundling is, of course, the customer. From onboarding through transaction processing, customers can get just what they need for the

appropriate price. Unbundling also enables KYC, data security, and regulator transparency. However, nothing changes regarding liability and the fiduciary duty of protecting customer assets—those stay with the banker.

On the flip side, bundling allows for consistency, quality, and a more controlled customer experience. It also allows for greater consumer protections. Finally, a bundled product allows the banker to move the customer's money around more efficiently, enabling them to earn more on the customer's behalf.

Either way, technology has changed the way financial firms relate to their customers. FinTechs offer finely-tuned products and services, but still depend on legacy banking systems to operate. Incumbent institutions can layer products for maximum value to the customer, but depend on friction in the system for profits.

Discussed 15 November

*Satyen Kothari, Chief Executive Officer and Founder, CUBE
Dr Leda Glyptis, Chief Innovation Officer, Qatar National Bank*

Bradley Leimer, Head, FinTech Strategy, Explorer Advisory

Ewan MacLeod, Chief Digital Officer, Nordea Bank

Moderated by Ghela Boskovich, Head of Fintech/RegTech Partnerships, Rainmaking





Continuing the conversation

And so the conversation continues. The Singapore FinTech Festival will return in November 2018 for more insight, innovation, and debate. In the meantime, here's a snapshot of this year's events during what proved to be a remarkable week.

By the numbers


 Festival visitors
30,000


 Countries represented
100


 Conference speakers
160


 Conference exhibitors
300


 Investor Summit participants
1,000


 Investor capital raised
US\$2 billion


 Hackcelerator submissions
580


 Hackcelerator finalists
20


 FinTech Awards submissions
309


 FinTech Awards finalists
30

For more information on the event visit <http://www.fintechfestival.sg/>.

Singapore FinTech Festival 2017 agenda

TIME	CONFERENCE DAY 1 (14 NOV)		
9.50am	Opening Act		
10.00am	The Future by MIT Media Lab Joi Ito, Director, MIT Media Labs		
10.20am	The Singapore FinTech 2.0 Ravi Menon, Managing Director, MAS		
10.50am	Leaders Dialogue: Re-Defining Digital Leadership Adrienne Harris, Chief Business Development Officer and General Counsel, States Title Inc. Heather Cox, Chief Technology and Digital Officer, USAA Janet Young, Managing Director, Head Group Channels & Digitalization, UOB Moderator: Haslinda Amin, Chief International Correspondent for SEA, BloombergTV		
11.30am	NETWORKING AND LUNCH		
	DELOITTE STAGE	PRUDENTIAL STAGE	AMTD STAGE
1.00pm	ASEAN How can ASEAN use technology to foster greater integration? <ul style="list-style-type: none"> Nestor Tan, Chairman, Philippines Banking Association, President, BDO Unibank Nadiem Makarim, Chief Executive Officer & Founder, Go-Jek Teeranun Srihong, Chairman, Digital Economy Promotion Agency Commission, Thailand Alex Kong, TNG Fintech Group Moderator: Charles Ross, Editorial Director for APAC, EIU Thought Leadership, The Economist 	How Did We Get Here? Big Data is now an integral part of any business' operations. A look at the transformational changes in the last few years that has allowed corporations and individuals to leverage on the analytics of Big Data to enhance their business effectiveness and profitability. <ul style="list-style-type: none"> Donald MacDonald, Head, Group Customer Analytics & Decision, OCBC Kevin Lee, Head, GIC Labs and Data Science, GIC Richard Lowe, Chief Data Officer, UOB Mike Blalock, General Manager, Financial Services Industry (FSI) vertical, Intel Moderator: Diana Paredes, Chief Executive Officer, Suade 	National Cyber Resilience: The Singapore Case A look at key strategies and initiatives that Singapore has adopted at the national level to prepare against cyber-attacks. <ul style="list-style-type: none"> Teo Chin Hock, Deputy Chief Executive, CSA
1.50pm		Transition	
2.00pm	LATAM How can Latin America remain competitive in the new digital age of growth? <ul style="list-style-type: none"> Diego Gutierrez, Chief Executive Officer & Co-founder, RSK Lab Irene Arias, Director, IFC LATAM Diego Molano, ICT Minister of Colombia (2010-2015) Kurt Koenigsfest, Chief Executive Officer, Banco Sol Moderator: Laura Gaviria Halaby, Chief Acceleration Officer, The Venture City 	Laying the Bricks What are the prerequisites that need to be in place before society can reap the full benefits of Big Data? <ul style="list-style-type: none"> Vasant Dhar, Professor, Centre for Data Science, NYU Paul Cobban, Chief Data and Transformation Officer & Managing Director, Group Technology and Operations, DBS Kevin McCarthy, Chief Customer Officer, DemystData Simon Kirby, Director, SI Industry Solutions, Financial Services, Qlik Moderator: Jojy Mathew, Co-Leader, FSI Analytics & Information Management, Deloitte 	Cybersecurity Policy Challenges 2025 and Beyond What does the future of cyber security in the financial sector look like and what are the risks the industry and regulators will need to address? <ul style="list-style-type: none"> Paul Nicholas, Senior Director, Microsoft's Trustworthy Computing
			Cybersecurity in the Age of FinTech and Digital Business How can global financial institutions defend themselves against cyber-attacks? <ul style="list-style-type: none"> Rohan Amin, Global Chief Information Security Officer and Chief Technology Control Officer, JPMorgan Chase & Co.
			FS-ISAC APAC Intelligence Centre A look at the role the new APAC-centric intelligence centre can play to complement and enhance industry's response to cyber-threats. <ul style="list-style-type: none"> Bill Nelson, President and Chief Executive Officer, FS-ISAC

2.50pm		Transition	
3.00pm	<p>India What are the challenges and opportunities presented by the FinTech boom in India?</p> <ul style="list-style-type: none"> • Shri Debashis Sen, Additional Chief Secretary to the Govt. of West Bengal and Chairman-Managing Director, WBHIDCO • Shiv Bhasin, Chief Technology Officer, SBI • Rohit Bhagat, Board Director, Axis Bank • Vish Mishra, Venture Director, Clearstone Venture Partners • Moderator: Ritu Singh, Journalist, CNBC India 	<p>Cracking the Code of the Gold Standard of Decision Making A use-case application of Big Data in the payments space.</p> <ul style="list-style-type: none"> • Scott Setrakian, Managing Director, Applied Predictive Technologies • David Horton, Head of Innovation, Synchrotron 	<p>Cyber Resilience Through Self-Healing Technology How can self-managing technology be used to discover security breaches and initiate policy-based corrective actions quickly?</p> <ul style="list-style-type: none"> • Dough Wilson, IBM Distinguished Engineer, and CTO for Vulnerability, Risk and Compliance Management Products, IBM Security <hr/> <p>Leveraging Intelligence to enable Cyber Threat Hunting</p> <ul style="list-style-type: none"> • Why hunt for cyber threats? What does it take to be an effective cyber threat hunter? • John Watters, Executive Vice President, Global Services & Intelligence, FireEye Inc
3.50pm		Transition	
4.00pm	<p>Established Markets Is the FinTech boom giving mature markets a second wind?</p> <ul style="list-style-type: none"> • Jorg Gasser, State Secretary for International Financial Matters, Federal Department of Finance, Switzerland • Anne Le Lorier, BdF Deputy Governor • Oki Matsumoto, Founder, Chairman & CEO, Monex Group, Inc. Japan • Bob Contri, Global Financial Services Industry Leader, Deloitte • Moderator: Mark Worthington, Partner and Managing Director, Klareco Communications 	<p>It's Showtime! Showcase of application in data analytics in the financial sector</p> <ul style="list-style-type: none"> • Abhi Gupta, Head of Marketing Analytics, Paypal • Deepak Ramanathan, Chief Technology Officer, SAS • Fiaz Mohamed, Head of Business Development, AI Products Group, Intel 	<p>Enhancing IT Security Awareness Within an Organisation How can IT security awareness be tested, measured and tracked and why do it?</p> <ul style="list-style-type: none"> • Cheri McGuire, Group Chief Information Security Officer, Standard Chartered Bank <hr/> <p>Application Programming Interface (API) Security Why is Application Programming Interface (API) security more important than ever and how can organisations secure their APIs?</p> <ul style="list-style-type: none"> • Christopher Hall, Global Deputy CISO, BNY Mellon
4.50pm		Transition	
5.00pm	<p>China Giants in the Chinese FinTech scene share their insights on how they see the sector developing.</p> <ul style="list-style-type: none"> • Tang Ning, Founder and Chief Executive Officer, CreditEase • Douglas Feagin, President International Business, Ant Financial • Soul Hite, Founder and Chief Executive Officer, Dianrong • Moderator: David Lee, Professor, Singapore University of Social Sciences 	<p>Fireside Chat: Mapping the Future with Data Analytics</p> <ul style="list-style-type: none"> • David Hardoon, Chief Data Officer, MAS • Nick Cook, Head of RegTech and Analytics • Moderator: Ramaswamy Lakshmi Narayanan, Partner, KPMG 	<p>Cyber Red Teaming How can cyber red teaming help to improve the cybersecurity posture of financial institutions?</p> <ul style="list-style-type: none"> • Charles Blauner, Managing Director, Global Head of Information Security, Citibank <hr/> <p>Insuring Against Cyber Crime Understanding cyber insurance and how it works can help us better manage cyber risks.</p> <ul style="list-style-type: none"> • Murray Wood, Head of Financial Specialties, Asia -- Aon Risk Solutions • Andrew Mahony, Regional Director, Financial Services & Professional Group -- Aon Risk Solutions
5.50pm		Networking	
6.30pm		OPENING BASH	

TIME	CONFERENCE DAY 2 (15 NOV)		
9.30am	The Future by Deloitte David Cruickshank, Global Chairman, Deloitte		
10.00am	Opening Keynote: Arun Jaitley , Finance Minister and Minister of Corporate Affairs, India		
10.30am	Fireside Chat: Grady Booch, Chief Scientist for Software Engineering and Watson/M at IBM Research Vanitha Narayanan, Chairman of IBM India Pvt. Ltd & Industry Academy Advisory Board Member Moderator: Staci Warden, Executive Director, Milken Institute		
10.40am	Keynote: Investing in the Future Vikram Pandit, Chairman & Chief Executive Officer, The Orogen Group		
10.50am	Leaders Dialogue: Future of Banking Keynote: Calvin Choi, Chairman, AMTD Kai Nargolwala, Chairman, Prudential Corporation Asia Vikram Pandit, Chairman & Chief Executive Officer, The Orogen Group Moderator: Manisha Tank, Journalist, CNN		
11.40am	Transition		
	DELOITTE STAGE	PRUDENTIAL STAGE	AMTD STAGE
11.50am	Keynote: Michael Gorris, Group Chief Information Officer, Standard Chartered Bank		Keynote: Chris Giancarlo, Chairman, CFTC
12.10pm	Fireside Chat <ul style="list-style-type: none"> Slawomir Sikora, President, Citi Handlowy Moderator: Chloe James, Group Media Director, RFI 	Fireside Chat <ul style="list-style-type: none"> Maile Carnegie, Group Executive, Digital Banking, ANZ Moderator: Laura Noona, Investment banking correspondent, Financial Times, Financial Times 	Fireside Chat <ul style="list-style-type: none"> Chris Giancarlo, Chairman, CFTC Tim Adams, President & Chief Executive Officer, IIF
12.30pm	NETWORKING/LUNCH		
1.30pm	Open Architecture: from Mindset to Skillset Open architecture is changing the way market players operate. Are there no downsides? <ul style="list-style-type: none"> Matthias Kroner, Chief Executive Officer, Chairman of the Executive Board, Fidor Bank Brian Behlendorf, Executive Director, Hyperledger Michael Tang, Global Financial Services Digital Transformation Lead, Deloitte D K Sharma, Percipient Moderator: James Lloyd, Asia-Pacific FinTech Leader, Ernst & Young 	Keynote: Sir Terry Matthews, Executive Chairman, Wesley Clover International Fireside Chat <ul style="list-style-type: none"> Sir Terry Matthews, Executive Chairman of Wesley Clover International Moderator: Manisha Tank, Journalist, CNN 	Regulatory Insights Has technology made the markets a safer place? What are the costs and risks? What are the challenges that technology alone cannot solve? <ul style="list-style-type: none"> Ong Chong Tee, Deputy Managing Director, MAS Erik Thedéen, Director General, Financial Supervisory Inspectorate (Finansinspektionen) Motonobu Matsuo, Deputy Director General, Credit and Insurance Systems, JFSA Moderator: Conan French, Senior FinTech Advisor, IIF

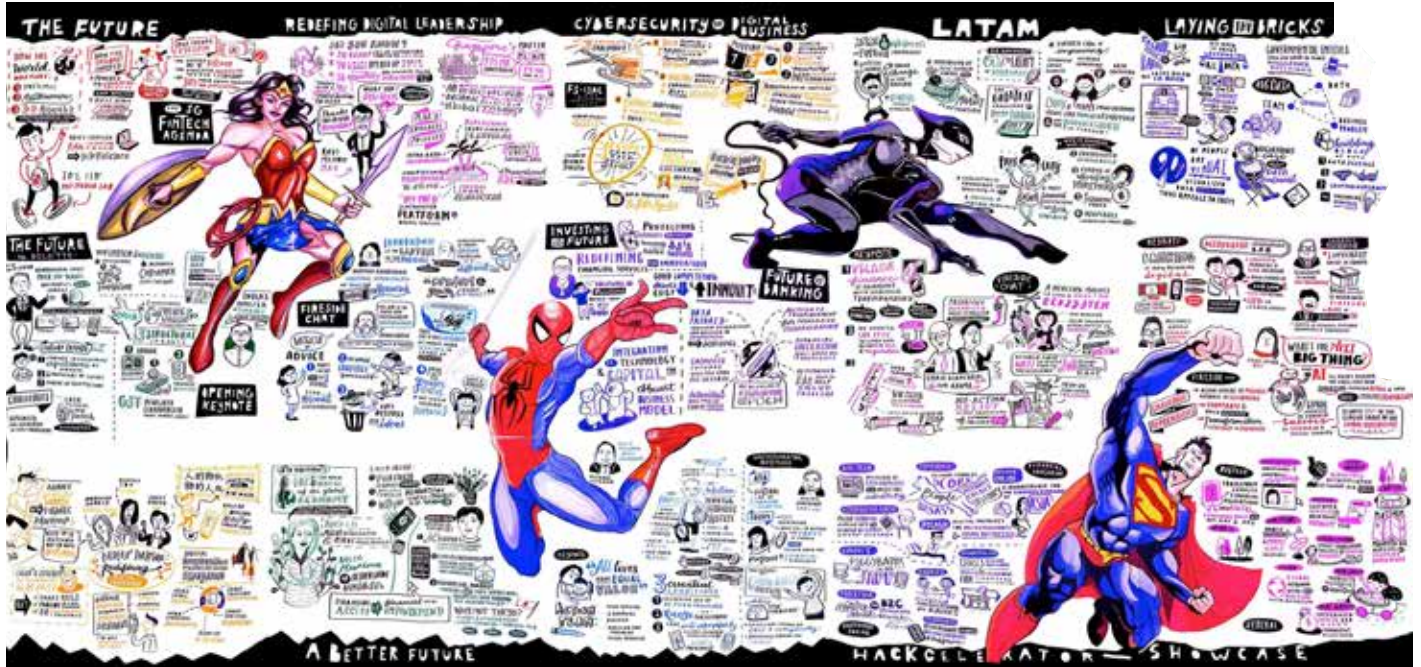
2.20pm		Transition	
2.30pm	<p>Alternative Payments: Beyond Hype With the world going cashless, what are the challenges and opportunities we can expect in the world of payments?</p> <ul style="list-style-type: none"> • Brad Garlinghouse, Chief Executive Officer, Ripple • Taavet Hinrikus, Co-founder & Chief Executive Officer, Transferwise • Tim Grant, Founder & Chief Executive Officer, DrumG Financial Technologies • Moderator: Chonchol Gupta, Chief Business Officer, IOT Word Labs 	<p>FinTech Founders – The New and Originals</p> <ul style="list-style-type: none"> • Ron Suber, President Emeritus and Senior Advisor, Prosper Marketplace • Renaud Laplanche, Co-Founder and Chief Executive Officer, Upgrade • Michael Stumm, Co-founder, Oanda • Moderator: Laurent Nizri, Founder, Paris FinTech Forum 	<p>Regulatory Sandbox – Colosseum or Just Child's Play What are the different considerations and challenges for different markets? What is needed to facilitate greater standardisation and how do we get there?</p> <ul style="list-style-type: none"> • Mark Adams, Senior Exec Leader of Strategic Intelligence, ASIC • Buncha Manoonkunchai, Senior Director, Financial Technology Group, Bank of Thailand • Mirel ter Braak, Senior Policy Advisor, Netherlands Authority for the Financial Markets • Richard Teng, Chief Executive Officer, Financial Services Regulatory Authority, ADGM • Moderator: Dan Morgan - Director Policy & Regulation, Innovate Finance
3.20pm		Transition	
3.30pm	<p>Harnessing the Power of the Ledger Blockchain technology holds great power. How can the Financial Industry unleash its full potential for growth and what are some considerations.</p> <ul style="list-style-type: none"> • David Rutter, Founder & Chief Executive Officer, R3 Lab • Joseph Lubin, Founder, Consensus • V. Laxmikanth (VLK), Managing Director, Broadridge Financial Solutions • Greg Li, Head of Asia, BitFury • Moderator: Matthew Roszak, Chairman & Co-Founder, Bloq 	<p>Fireside Chat with Sopnendu Mohanty</p> <ul style="list-style-type: none"> • Moderator: Pat Patel, Content Director, Money2020 <p>Asian FinTech Founders What propels one to innovate and what is needed to see the vision through to fruition.</p> <ul style="list-style-type: none"> • Justin Lie, Founder & Chief Executive Officer, Cashshield • Nicki Ramsay, Founder & Chief Executive Officer, CardUp • Shailesh Naik, Founder & Chief Executive Officer, Matchmove Pay • Mike Kayamori, Co-Founder & Chief Executive Officer, Quoine • Moderator: Pat Patel, Content Director, Money2020 	<p>Risk & Liability What does liability look like in the new digital age for consumers and market players? What we need to know and what are the challenges? What sort of technology can help manage risk better?</p> <ul style="list-style-type: none"> • Andres Portilla, Managing Director, Reg Affairs, IIF • Mark Whitcroft, Founding Partner, Illuminate Financial Management • Jim Lord, Chief Executive Officer, General counsel, and Co-founder of Compliance Strategies International • Moderator: Jo Ann Barefoot, Chief Executive Officer, Barefoot Innovation Group
4.20pm		Transition	
4.30pm	<p>Solving the Talent Puzzle with Technology FinTech is booming. So where is the talent and why do they remain elusive? How can technology help?</p> <ul style="list-style-type: none"> • Yolanda Piazza, Chief Executive Officer, Citi Fintech • Susan Hwee, Head, Group Technologies & Operations, UOB • Clarence Ti, Principal, Ngee Ann Polytechnic • Hirofumi Aihara, General Manager, Digital Transformation, MUFG • Moderator: Prof Annie Koh, Vice President, Office of Business Development, SMU 	<p>The curious case of unbundling and rebundling in financial services The great debate.</p> <ul style="list-style-type: none"> • Satyen Kothari, Chief Executive Officer & Founder, CUBE • Dr Leda Glyptis, Chief Innovation Officer, Qatar National Bank • Bradley Leimer, Head FinTech Strategy, Explorer Advisory • Ewan MacLeod, Chief Digital Officer, Nordea Bank • Moderator: Ghela Boskovich, Head of Fintech/RegTech Partnerships, Rainmaking 	<p>KYC for the Digital Age How do we strike a balance between security, compliance and privacy?</p> <ul style="list-style-type: none"> • Hiromi Yamaoka, Director-General, Bank of Japan • Jay Collins, Vice Chairman, Corporate and Investment Banking, Citi • Anju Patwardhan, Managing Director, FinTech Investment Fund and FOFs, Credit-ease • Moderator: David C. Scott, Partner, Financial Services, Ernst & Young

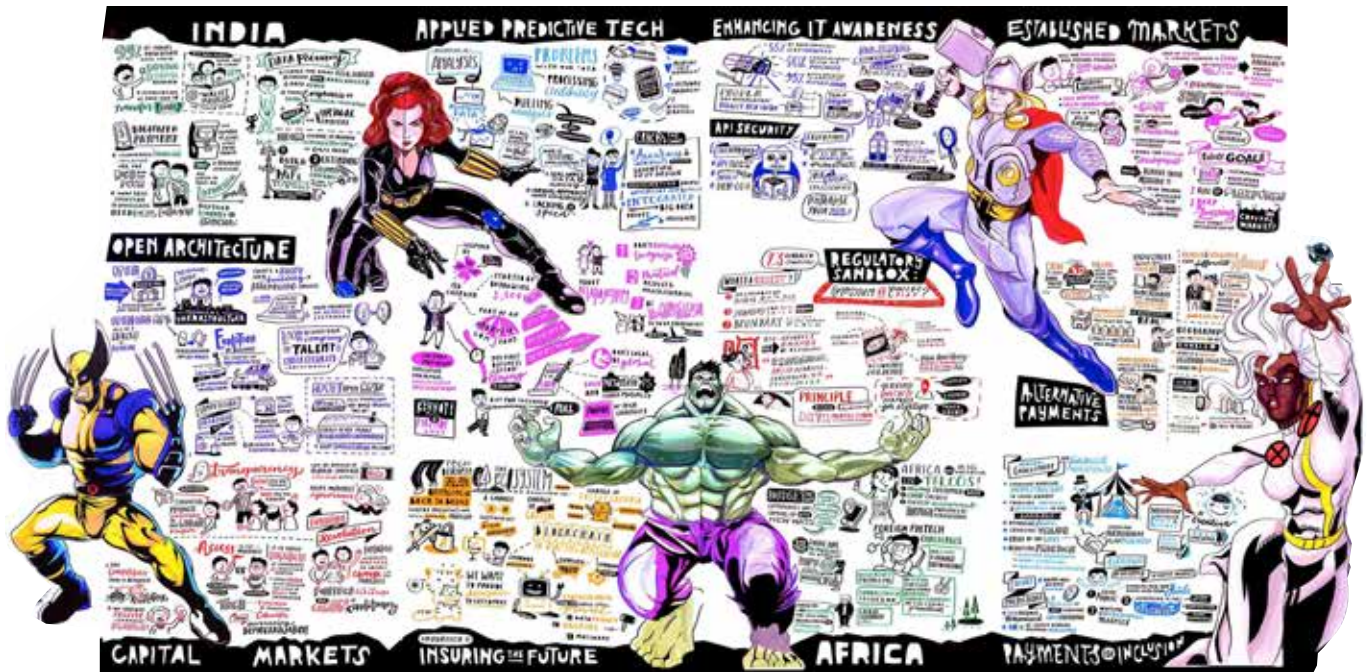
TIME	CONFERENCE DAY 3 (16 NOV)		
9.30am	A Better Future (Inclusive Technology): Her Majesty Queen Máxima, UN Secretary-General's Special Advocate for Inclusive Finance for Development		
9.50am	Keynote: Michael Wiegand , Bill & Melinda Gates Foundation		
10.10am	Hackcelerator Opening: Jeremy Anderson , Chairman, KPMG GFS		
10.20am	Video: The making of...Global FinTech Hackcelerator (3 mins)		
10.25am	Hackcelerator Demo: Team 1 – 5 [5 mins each] [Inclusion]		
10.50am	Transition		
11.00am	Hackcelerator Demo: Team 6 – 10 [5 mins each]		
11.25am	Transition		
11.35am	Hackcelerator Demo: Team 11 - 15 [5 mins each]		
12.00pm	Transition		
12.10pm	Hackcelerator Demo: Team 16 – 20 [5 mins each]		
12:35pm	Hackcelerator Closing: International Showcase: Winners from ADGM Innovation Challenge (2 teams, 5 mins each) Announcement of special prize winners (to be renamed)		
12.45pm	NETWORKING/LUNCH		
	DELOITTE STAGE	PRUDENTIAL STAGE	AMTD STAGE
11.50am	<p>Keynote: Subroto Bagchi, Co-founder, Mindtree</p> <p>Innovation in Trade Finance: The Potential for Transformation How can technology and innovation solve decades-old problems in trade finance?</p> <ul style="list-style-type: none"> • Li Shu-Pui, Executive Director, HKMA • Bernard Wee, Executive Director, MAS • Gianfranco Casati, Group Chief Executive, Growth Markets, Accenture • Tan Kah Chye, Founder, Tin Hill Capital • Moderator: Finbarr Bermingham, Asia Editor, Global Trade Review 	<p>Keynote: Tan Su Shan, MD and Group Head, DBS</p> <p>InsurTech I - Protection Disruption How technology has changed the way we manage risk and reinvented the way insurance is sold to consumers.</p> <ul style="list-style-type: none"> • Dr. Andreas Braun, MD, Accenture, former Head, Global Data & Analytics, Allianz Group • Parul Seth Khanna, Director, Pinbox Solutions • Benoit Claveranne, Group Chief Transformation Officer for AXA Group • Moderator: Dan Murphy, CNBC 	<p>FinTech for Financial Inclusion Many of FinTech's products and platforms have salient features that have the potential to benefit underserved individuals and communities. However, there is also risk that rapid adoption of FinTech leads to unsafe and unsound financial system or even create a new form of financial exclusion. The session will seek to identify the most appropriate technologies for emerging market and the risks to be addressed.</p> <ul style="list-style-type: none"> • Ann Cairns, President, International Markets, Mastercard • Henri Dommel, Director of Financial Inclusion Practice Area, UNCDF • Justo A. Ortiz, Chairman & Chief Executive Officer, Union Bank • Juan Jose Guemes, Chairman Entrepreneurship & Innovation Centre, IE Business School • Moderator: Akiko Fujita, CNBC

3.00pm		Transition	
3.10pm	<p>Capital Markets</p> <p>The application of technology has enabled rapid growth in capital markets. We trade better, faster, more accurately. Listen to incumbents and new players discuss the opportunities and challenges these developments bring.</p> <ul style="list-style-type: none"> • Kaidi Ruusalepp, Founder & Chief Executive Officer, Funderbeam • Robert Lempka, Co-Founder & Chief Executive Officer, Ayondo Group • Muthukrishnan Ramaswami, President, SGX • Denes Ban, Managing Partner, Ourcrowd • Moderator: Sassan Danesh, Chief Executive Officer, E-trading software 	<p>InsurTech II – Insuring the Future</p> <p>In a world where risks are fast changing, how do we price risks that are not only new but also evolving daily? (nat. cat., cyber) What are the ex-ante and ex-post considerations that businesses should address?</p> <ul style="list-style-type: none"> • Al-Noor Ramji, Group Chief Digital Officer, Prudential • Julie Batch, Chief Customer Officer, IAG • William Fung, Co-CEO, AMTD Strategic Capital Group • Moderator: Murray Raisbeck, Global InsurTech Leader, KPMG 	<p>Policy and Approach for sustainable Financial Inclusion</p> <p>This session will compare full spectrum of policy & regulatory approaches to enable FinTech for financial inclusion whilst taking into account risks to consumer protection, financial integrity, and financial stability. It will examine key pros and cons and countries' readiness to adopt different approaches.</p> <ul style="list-style-type: none"> • Maha Bahou, Executive Manager for Payment Systems & Domestic Banking, Central Bank of Jordan • Korn Chatikavanij, Chairman, Thai Fintech Association • Vivek Pathak, East Asia Pacific Regional Director, IFC • Norbert Mumba, Deputy Executive Director, AFI • Moderator: Chuin-Wei Yap, WSJ/Dow Jones
4.00pm		Transition	
4.10pm	<p>Payments for Inclusion</p> <p>A showcase of how FinTech has been used to escalate Financial Inclusion in the region.</p> <ul style="list-style-type: none"> • Ken Moore, Executive Vice President and Head, Mastercard Lab • Mark Jamison, Senior Vice President, Innovation & Strategic Partnerships, VISA • Shuan Ghaidan, Global Director, Products Union Pay • Ron Hose, Chief Executive Officer, Coin.ph • Moderator: Rashmi Dalai, Managing Editor for APAC, EIU Thought Leadership, The Economist 	<p>The FinTech Northern Lights</p> <p>Is the FinTech light shining brighter in the Nordic region than before? What are the opportunities there?</p> <ul style="list-style-type: none"> • Aleksy Grym, Head of Digitalisation, Bank of Finland • Iren Tranvag, CEO, Nordic Finance Innovation • Thomas Krogh Jensen, CEO, Copenhagen FinTech Lab • Lisa Enckell, Partner, Approach World • Moderator: Chloe James, Group Media Director, RFI 	<p>Africa</p> <p>Significant progress has been made in the African continent to re-shape and adapt the financial services industry. Where is Africa heading?</p> <ul style="list-style-type: none"> • Kudzai Kutukwa, Founder and CEO, Mobbisurance • Sean Emery, Co-founder and CEO, Rainfin, South Africa • Sameer Hirji, Co-founder, Selcom • Viola Llewellyn, Co-founder and President, Ovamba • Moderator: Lazaro Campos, Co-founder, Fintech Stage
5.00pm			Closing Keynote: Yuriko Koike, Governor of Tokyo
4.20pm		END	
5.30pm		FINTECH AWARDS	
8.30pm		NETWORKING	



Singapore FinTech Festival Visual Notes





These visual notes were taken and illustrated by Idea Ink during the Singapore FinTech Festival.

Endnotes

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