

**SPEECH BY MR ONG YE KUNG, MINISTER FOR
EDUCATION (HIGHER EDUCATION AND SKILLS) AND
SECOND MINISTER FOR DEFENCE, AT THE
WELCOME DINNER FOR 2017 SINGAPORE FINTECH
FESTIVAL'S INVITED GUESTS AND CONFERENCE
SPEAKERS, 13 NOVEMBER 2017**

Ladies and gentlemen, good evening.

1 This week, some 25,000 people from the regional and global FinTech communities – spanning the financial, technology, and VC industries – they will gather, network, and exchange views. On behalf of the MAS - Welcome to the opening day of the Singapore FinTech Festival 2017!

2 I also want to thank all of you who will be speaking in various segments of the programme. It is your sharing of knowledge that will help make this the premier event and one of its kind in the world. Our gratitude also goes out to the members of MAS' International Technology Advisory Panel for generously sharing your insights. Thank you very much.

A Smart Nation

3 Like many leading countries, Singapore aspires to be a Smart Nation. What is it really? We know what it is not – it does not about robots and AI replacing people or running our lives. Technology is only one part of a Smart Nation.

4 It means doing things the smart way. In a Smart Nation, day to day processes like booking a taxi ride, ordering food, checking in at the airport, applying for a business licence, they can be streamlined and interfaced through the internet or mobile devices where possible. This is not just a matter of applying technology, but designing more intuitive human processes and business processes.

5 It means applying data and information to make life better. If we can extract data well, we can anticipate needs and create more meaningful solutions. We can warn someone before he falls sick, minimise traffic accidents, hunt down a criminal faster, or repair a machine before it fails. We can implement policies that are more evidence-based, with greater efficacy.

6 It also means having smart people. I don't mean IQ or EQ here, but having people who embrace change and new ways of doing things. It means having people who are adaptable, civic-minded, and resilient to initial hiccups as we embark on a digital transformation. I think ultimately, that is the biggest determinant of a Smart Nation.

7 Finally, behind a Smart Nation is the financial system that oils the mechanics and engine of the real world, and that too must be smart. A smart financial centre will have FinTech at its heart. This evening, I want to

give a flavour of what MAS and the industry – comprising both FinTech firms and financial institutions – are doing to promote innovation and harness the benefits of technology. I will touch on three areas:

- a. How MAS is using the regulatory sandbox to promote experimentation and innovation;
- b. How we are promoting electronic payments in a way different from other countries; and
- c. How we are equipping our people for a Smart Nation, as a national movement.

Regulatory Sandbox

8 First, the regulatory sandbox. Last year, MAS launched the FinTech regulatory sandbox to allow firms to experiment in innovative solutions while preserving safety and soundness. Since then, MAS has received more than 30 applications to “play in the sandbox”.

9 It turns out that half of these applications did not require the sandbox. Many did not need any regulatory exemption and MAS told them to go ahead and launch their solutions. That is really encouraging and a positive reflection of our regulatory framework, because innovation thrives most

when enterprising people can commence business and implement ideas easily.

10 The remaining applicants are currently in the sandbox, have been approved to enter the sandbox, or are in discussions with MAS on their applications. One has graduated from the sandbox.

11 What kind of ideas are tested in the sandbox? One example of a business that is in the sandbox is Kristal Advisors. It is testing an innovative financial advisory and portfolio management service. Rather than the usual way of recommending investment portfolios based on a set of pre-defined rules, the solution uses machine learning to continuously analyse and learn from the investor's on-going decisions, with the aim of making better recommendations to the investor.

12 This involves untested technology and an unconventional fund manager, so we set up some boundaries within which Kristal could test its technology in a live environment with real customers.

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13 The first applicant to graduate from the regulatory sandbox is an insurance broker called PolicyPal. It was founded by a young entrepreneur, Val Yap. She has been named one of Forbes Asia's "30 under 30" in the finance and venture capital industry. Val left a stable job in a large bank to start PolicyPal because of the difficulties she faced as an

insurance customer. She started PolicyPal to help customers manage their insurance policies digitally in one place. The customer uses his phone to snap photos of his insurance policies and uploads them onto PolicyPal's mobile app. The app uses OCR technology to digitise and analyse the documents, and give the customer an assessment of where he has duplicate or insufficient insurance coverage. And, using the app, the customer can purchase new insurance plans and store them in the same app, easily.

14 But, as a startup, PolicyPal was unable to meet MAS' criteria for licensing, including track record and financial requirements. And the OCR and applied analytics technologies were untested. PolicyPal was therefore granted the necessary exemptions to allow it to test its solution in the sandbox with a limited pool of actual and real customers. PolicyPal was successful in its sandbox experiment and is now a licensed insurance broker.

15 The sandbox is as much a learning journey for the applicants as it is for MAS. As we learn more, we can do more for the industry, and do it better. MAS will expedite the sandbox application assessment so that firms can test and launch their innovative solutions faster. MAS will also further loosen the regulatory boundaries for sandbox cases where the risks do not outweigh the potential benefits of the solution to consumers.

Electronic Payments

16 Let me now talk about electronic payments. E-payments is an essential part of any digital economy. In many countries, large closed loop systems dominate the market because of first mover advantage and fast adoption. They are very convenient, but the downside about closed loop systems is that they raise concerns about market competition and evolution of new solutions for the long term. In Singapore which is a city-state, we want to ensure that our systems are open loop. They should be interoperable, and yet convenient. This may mean we have to put in some regulations, but these measures should not be over-bearing.

17 One important step that MAS took was to work with the industry to lay the infrastructure that will support an interoperable e-payment system. FAST was launched in 2014, followed by PayNow in July this year.

18 FAST is Singapore's 24x7 real-time inter-bank retail payment system. PayNow is built upon FAST. It links bank accounts to mobile phone numbers or personal ID numbers, and enables people to make inter-bank transfers into and out of their bank accounts using just the mobile phone number or personal ID number. The service is free to use for individuals, it is secure, and always on. Today over 600,000 Singaporeans have registered for PayNow in less than five months and we expect the number to grow.

19 People are already using PayNow for everyday transactions like splitting lunch bills and sharing the cost of joint purchases. But it is businesses that stand to gain the most in efficiency and cost reduction by adopting e-payments. PayNow will therefore be extended to businesses around the middle of next year. Businesses will be able to link their Unique Entity Numbers, or UENs, to their bank accounts. This will allow businesses to pay each other, or receive payments from customers, through their UENs.

20 FAST and PayNow are important conduits of interoperability. They are payments infrastructure, plugging all banks, businesses and consumers onto a single, open platform. But many other e-payment solutions have also sprouted, using different tokens and apps for different member groups. That can be confusing for the ordinary man in the street. How we can minimize confusion and ensure convenience is to have all these solutions adopt the same uniform point-of-sale interface. We are working with the industry to make e-payments adoption more pervasive and convenient that way.

21 Next, through the Payments Council, we will set nation-wide common QR specifications for e-payments – the SGQR. The major banks, e-wallet providers, and payment schemes are all on board. From next year, the SGQR will be progressively rolled out across the island. So in the very

near future, when you walk into a shop that accepts QR code payments, you should only see SGQR with all the acceptance marks underneath it. If your payment method is accepted by the merchant, you just need to use your smart phone to scan and pay to a single SGQR.

22 As for solutions that rely on payment cards, MAS and the banking industry have also been working on a unified point-of-sale, or UPOS. More than 17,500 UPOS terminals have been deployed at merchants like supermarkets, convenience stores, fast food chains, and government agencies. Over the next two years, thousands more UPOS terminals will be rolled out.

23 We are also striving for e-payments interconnectivity not just domestically, but also with our neighbours and regional countries. We have started in a small way with India and China, and will progressively work towards interconnectivity with other countries. The largest merchant acquirer in Singapore, NETS, will establish a framework to enable cross-border payment linkages with the National Payment Corporation of India or NPCI.

24 So from the middle of next year, anyone who holds a NETS card in Singapore can make online purchases on any NPCI e-commerce merchant website in India. NETS is also working with NPCI to allow NETS payments at all 2.8 million RuPay point of sale terminals in India. Conversely, a

RuPay customer can use his RuPay card or RuPay-enrolled mobile phone to pay at any NETS acceptance point in Singapore.

25 UOB and DBS have also made inter-connection arrangements with UnionPay, which is the dominant payment card platform in China. Our two largest local banks issue UOB or DBS UnionPay Cards which can then be used at all UnionPay terminals in China.

Preparing a Nation

26 The third and final area I want to touch on is talent. Talent is probably the most important ingredient for a vibrant finance sector. Today I speak to you as a member of the MAS Board of Directors. But my main job is really the Minister for Education, and education and skills development is what I have been asked to bring to the MAS.

27 Our school children across different ages are strong in their PISA scores. This is a good thing, because a strong foundation in literacy and numeracy is critical to innovation in a digital environment. The main reason for these strong scores is a societal culture that emphasises education. What also helped is our rather unique way of teaching mathematics, which focuses on analytical thinking from a very young age. Our mathematics curriculum is open source, and has been adopted by many countries. The difference in our approach is that imparting analytical thinking skills early,

provides a much stronger foundation than teaching a kid how to code. Coding language may become obsolete, but analytical thinking is evergreen.

28 To put such analytical thinking to practice, our students are widely exposed to robotics, coding, IT and digital technology through academic curriculum and also co-curriculum activities.

29 On the FinTech front, MAS and our five local polytechnics collaborated on the PolyFinTech 100 initiative last year, to equip polytechnic graduates with the skills to take on new FinTech-related jobs. To date, more than 1,500 students have benefitted from this initiative. The students are mentored by FinTech professionals in Singapore. Participating students also interned in Silicon Valley, Shanghai, Jakarta, Munich and Sydney.

30 At the university level, our largest university – the National University of Singapore – requires all students to undergo compulsory modules in computation thinking or quantitative reasoning. In another niche University – the Singapore University of Technology and Design – the focus is on the contemporary design skills.

31 Beyond the formal school system, we have embarked on a national movement called SkillsFuture, urging all Singaporeans to participate in

lifelong learning, to master their craft in their respective professional fields. We rolled out a national training program called SkillsFuture for Digital Workforce, to equip all Singaporeans – young and old, from all sectors – with the attitude and skills to work in a digitally enabled environment.

32 We also enlarged the mission of all our Institutes of High Learning, including vocational institutes and universities, to include lifelong learning. So collectively, these institutes will be rolling out 400 courses by early next year to cater to adult learners, and mostly in the areas of digital economy, technology, and entrepreneurship. I think no other country has mobilized all its national education resources to prepare its people for the future as we have.

33 I am pleased to announce that this week we will formalise the TeSA FinTech Collective that MAS, IMDA, and SSG have jointly embarked on with six universities and five industry associations. This is part of IMDA's Tech Skills Accelerator initiative that aims to accelerate professional development and enhance employability outcomes for ICT professionals, and is driven by the MAS-led TeSA Finance Sector Committee. This collaboration will be the first large scale effort between an entire industry sector and the full range of all local autonomous universities. The TeSA FinTech Collective aims to enhance pre-employment and continuing education training for undergraduates, postgraduates and working adults, especially FinTech professionals, in emerging ICT skills. With better

twinning between education and industry, participants in the programme will benefit from enhanced ICT curricula and on-the-job industry training opportunities in FinTech related roles.

Conclusion

34 I have given you a snapshot of where we are and what we plan to do for FinTech in Singapore. We live in an unprecedented era, where the advancement of digital technology has empowered individuals beyond our imagination. The entrepreneurs of today will change the world, in the way we do business and go about our daily lives. Singapore is honoured to be able to host you today. Last year Singapore hosted the largest FinTech festival internationally, and this year it's bigger, better and brighter. Enjoy the Festival. Thank you very much.

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