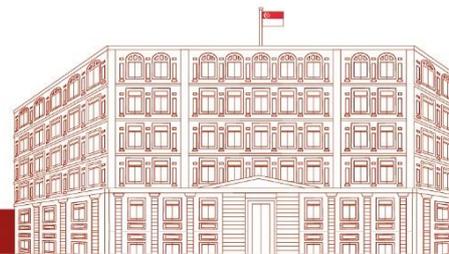


**SPEECH BY MINISTER FOR COMMUNICATIONS AND INFORMATION  
MRS JOSEPHINE TEO AT SINGAPORE POLYTECHNIC'S  
REGIONAL INDUSTRY NETWORKING CONFERENCE (RINC)  
(17 NOVEMBER 2021)**

Mr Soh Wai Wah, Principal & CEO of Singapore Polytechnic  
Distinguished guests  
Colleagues and friends

1. Thank you very much for inviting me to your Networking Conference.
2. I am delighted to be part of this gathering because it provides a rich opportunity for the sharing of insights on the latest technologies and products. I understand this virtual event brings together more than 1400 participants across 15 countries! That's remarkable indeed, well done to Singapore Polytechnic.
3. One of my favourite quotes about technology comes from Arthur C. Clarke. He is the author of 2001: A Space Odyssey, some of you might have read it before. And he had said that:  
"Any sufficiently advanced technology is indistinguishable from magic." And in terms of digital connectivity, 5G provides the hope that it will be like magic.
4. And if we look back over the past 40 years, each G or generation has introduced something new that we can transmit with our phones.  
In the 1980s, 1G gave us sound.  
In the early 1990s, 2G gave us texts.  
In the early 2000s, 3G gave us the mobile web.  
And from the 2010s onwards, 4G made possible live video streaming.  
Today, 5G promises to be ultra-fast, we saw a demonstration of that earlier, and providing peak data rates of up to 100 times faster than 4G, and near-zero latency.
5. Today's theme of "5G and Artificial Intelligence of Things for Enterprises" is therefore very timely. 5G and AI are the key planks in the broader trend of digitalisation. They promise to transform our lives and create exciting opportunities for our people and businesses.
6. Over the past 3 years, about 10,000 tech jobs have been filled each year, across our economy, and it is not just in tech firms that these opportunities are being created. And demand is fast outstripping supply. We already feel it. Thousands more job vacancies are available across our economy. These include new tech roles, which are created from the transformation of even non-digital sectors.
7. The convergence of AI and Internet of Things (or IoT) accelerated by COVID-19 has also redefined the way we work, live and play. Now, we can live comfortably in Smart Homes with appliances that learn our habits and adjust to our ways.
8. We can travel across Smart Cities, of course with VTLs and other border measures that we have implemented, and we can experience the improved public safety, transport and energy efficiency. We can



work in Smart Industries, alongside autonomous robots and predictive sensors that make work more efficient and reduce human error.

9. Globally, countries like the United States, China and Japan are rolling out 5G technology at a rapid pace. Likewise, Singapore is pushing ahead with the rollout of our 5G standalone networks, to enable our businesses to fully exploit these converging technologies.

10. We will have outdoor 5G coverage across half of Singapore by end 2022; and by end 2025, outdoor coverage across the whole of Singapore.

11. But we also need to guard against cyber risks and weaknesses that come with such expanded network. This is why we have made security and resilience our regulatory priority. Telcos must be committed to adopt a 'zero-trust' posture. And part of the reason is because so much of your client data are now going to be passing through this 5G backbone, more so than before and they are relying on it. And so a 'zero-trust' posture means they must first verify each activity in their system before trusting it, and now that's a really tall order, and to some extent you may also actually need to use Artificial Intelligence to make that scalable.

12. And as a result, IMDA has set up the 5G Security Testbed programme to work with telcos to strengthen their security posture. This is of great importance.

13. Singapore also partners like-minded countries to develop common governance principles, frameworks and standards. We have signed Digital Economy Agreements that promote greater interoperability between digital frameworks with Australia, Chile and New Zealand.

14. These collective efforts across the Government, industry and citizens help to build and preserve trust so that our businesses and people can truly succeed in the journey towards digitalisation.

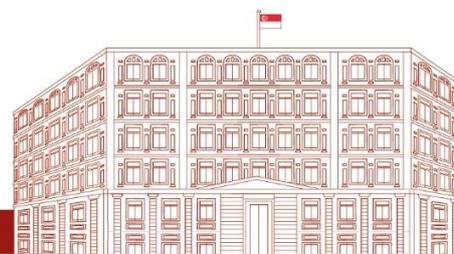
15. However, what do all these developments mean in real terms, for us?

16. I recently announced that we are developing the 5G@Sentosa testbed, which will be home to 10 trial projects by public agencies. These include experiments on remote-controlled road sweepers. We want to live in a clean and green city. It also includes aerial drones for worksite inspections. We want our buildings to be safe, and we also want to keep the workers who have to inspect these buildings safe. So remote inspection is quite a good solution if we can get it work well.

17. Our industry leaders have also shown the way. The Smart Urban Co-Innovation Lab at the Singapore Science Park, for instance, was initiated by CapitalLand Investment. It brings together private and public sector partners to promotes the development of solutions for smart cities. These include the use of 5G in smart estates, advanced manufacturing, and sustainability.

18. As part of our National AI Project on Healthcare, we have developed SELENA+, an AI algorithm that analyses eye scans to detect diabetes. SELENA+ will be deployed across all polyclinics by the end of 2021, I am delighted that SELENA+ has also been licensed to a local start-up, a company under the name of EyRis, which has activities in more than 20 countries and regions. Suffice to say that what we are able to do with SELENA+ has got applications for medical diagnosis across many different types of situations, and the hope of course is that we can in fact scale it up to help doctors, healthcare professionals, do their job better.

19. Businesses of different scale, sectors, and technology readiness need different platforms to prototype and test their 5G and AI innovations before commercialising them.



20. And this is why I am happy to launch Singapore Polytechnic's 5G & AIoT Centre today. The Centre allows companies to develop proofs-of-concept and consult tech experts on the development of their 5G and AI solutions.

21. The Centre's close nexus with the industry also offers a unique opportunity for staff and students to explore emerging technologies and real-world applications. For example, W2 Industrial Services Hub, a local SME, is working with the Centre to digitalise a Wastewater Sampling System to detect COVID-19. I am very closely aware of this project, and how it has been helpful to us in Singapore. This is a capability that has got real world consequence and actually can be very important in curbing disease spread, so that is really a useful thing that you have worked on.

22. The Centre is also collaborating with MNC Bosch on use cases such as fire detection in an airport hangar and monitoring of human traffic to avoid overcrowding, something which has become of great significance since the pandemic started.

23. I also want to say how much I appreciate the team for their very strong sense of passion and commitment to try and make 5G and AI available to SMEs, For SMEs, this additional offer is really useful. And I welcome our regional partners to tap on the 5G & AIoT Centre and testbeds to develop more of the innovative use cases.

24. These testbeds and innovation platforms are nothing without the people with the skills and ideas to make big things happen. Hence, I am also very glad that SP and NUS launched the 5G & Telecoms Academy ("5G Academy") last year to further develop a vibrant 5G talent ecosystem. The hardware and the software must go hand in hand. The 5G Academy, supported by IMDA, has been working to equip locals with the skills required to operate and maintain 5G networks, and develop 5G solutions.

25. In the span of one year, Wai Wah has mentioned that the goal was to train 5,000 by 2023, I think actually you've gone quite fast in this journey. I'm told that in the span of one year, over 3,000 Singaporeans have been trained in 5G-related skills through courses aggregated by the 5G Academy.

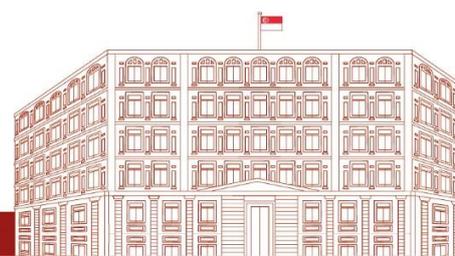
26. This rapid progress has been made possible through the combined effort of all 12 of our Institutes of Higher Learning and of course, could not have proceeded as quickly without the support of our industry partners.

27. In this next phase, the Academy is launching its new Training Portal. I had a glimpse of it. The portal has over 500 5G-related online courses, even practical hands-on training like those that will be offered in this 5G & AIoT Centre. This means that anyone, not only students of the 12 IHLs, any member of the public that has an interest in taking up 5G-related courses in order to equip yourself with the skills, you will be able to find what you need through this one-stop portal.

28. SP and NUS' training efforts are further complemented by IMDA's partnerships with Singapore's Mobile Network Operators, such as M1 and Singtel, to hire and reskill another 1,000 professionals to support Singapore's 5G rollout.

29. Let me highlight some of our students, I've met them. One is Ms Saung Naychi Min. She is currently a third-year Computer Engineering student in SP. She interns as a Technology Associate under the Singtel Hi-Performing Internship Experience, or SHINE Programme. Outside of her internship, Naychi experiments with Python programming to develop AIoT & 5G use cases, such as hand gestures tracking device that can control powerpoint slides without a trackpad or mouse.

30. Picking up new skills can be tough. Ramanan Kalechelvam is a participant in TeSA's programme, one part of it which we call the Company-Led Training programme. Now, Ram actually does not have a STEM background, he was a business student. At the beginning, he found himself on a really steep learning curve as Singtel's DevOps Manager. Nonetheless, he persevered because he enjoyed the hands-on nature



of the training that allowed him to experiment and innovate. And I think Ram is an excellent example, that doesn't mean anyone or everyone that is active as part of our tech workforce has to have a very steep STEM background. There are ways in which you can also move into this lane, by making right investments and training. Ram, for example, is a true life-long learner. He is still a very young man but a real inspiring example.

31. Both Naychi and Ramanan, they showed the kind of commitment to learning that should inspire all of us, and I am really happy to see them join our growing pool of 5G talent.

32. Needless to say, the Government will continue working closely with the Institutes of Higher Learning and industry to create good job and training opportunities.

33. In conclusion, new technologies will undoubtedly bring both disruptions and opportunities. It is up to us to harness the power of these technologies not only to enhance our way of life, but to also expand our horizons.

34. And I hope that today's session and your discussions will spark off meaningful conversations and collaborations, both within Singapore and across the border.

35. I wish you all a fruitful conference. Thank you very much.

