

## Opening Remarks by Mrs Josephine Teo, Minister for Communications and Information, at the Singapore Conference on Artificial Intelligence, 4 December 2023

Friends and colleagues

- 1. Good morning and thank you for making time to be here in Singapore.
- 2. My team and I are keenly aware that many of you have taken a leap of faith to join us at the inaugural Singapore Conference on Artificial Intelligence for the Global Good, or SCAI.
- 3. Conferences with an AI theme are a dime a dozen these days. What does Singapore hope to achieve with its own conference, that is different and meaningful? Why is this a good use of your time? And what would encourage you to join us next time, and invite other like-minded colleagues to come along?
- 4. Whether or not these questions have crossed your minds, we feel we owe you a clear articulation of our intentions.
- 5. First, let me say we start from a place of humility, a genuine desire to learn and a firm belief that we must contribute.
- 6. Of all the things we want to learn about AI, it is to learn to ask the right questions, even if they turn out to be very tough questions with no easy answers.
- 7. In our short journey as an independent nation, Singapore has had to deal with many tough questions of survival, relevance, and national unity. In seeking answers to these questions, we have benefitted greatly from the wise counsel of international experts.
- 8. For example, Dr Albert Winsemius, a Dutch economist, was Singapore's Chief Economic Advisor from 1960, not long after we ceased to be British colony. Against the conventional wisdom that was popular then, Dr Winsemius recommended that Singapore focus on attracting foreign investments and build up our manufacturing sector.
- His proposals served Singapore well. At age 74, having advised Singapore for nearly a quarter century, he stepped down from the role. By then, Singapore had come to be known as an NIE

   a newly industrialising economy.
- 10. I mention Dr Winsemius because he was a most respected friend of Singapore, whose advice we greatly valued. In the same way, we see in our SCAI delegates, respected friends who have also been generous with your advice.
- 11. There is, however, one big difference.
- 12. Our conviction is that when it comes to AI, it is not only what Singapore can learn from the world, but also what we can contribute to it.
- 13. Through SCAI, we hope to offer a platform for experts and thought-leaders to come together, to share knowledge and ideas to foster international collaboration a brain trust, if you will.
- 14. This aspiration is, perhaps, best exemplified by our water story.





- 15. As you may be aware, water is an existential issue for Singapore. We are a small island, with a limited water catchment.
- 16. In the past, up to 80% of our water was imported from overseas. In the 1990s, when membrane technologies were maturing, we sent our people to learn this technology from the United States, so that we could use it to recycle water. The recycled water, which we call "NEWater", now supplies up to 40% of Singapore's water needs.
- 17. Through NEWater, and other technologies like desalination, we have harnessed technology to overcome an existential problem. But we have not stopped there. We have also shared our experience freely so that others too may benefit.
- 18. Every year, we host the Singapore International Water Week, where international experts exchange ideas and solutions in water management. We promote continuous innovation in water technologies in the hope that it will alleviate global water shortages. The Lee Kuan Yew Water Prize is presented annually, to recognise outstanding individuals or organizations that contribute towards solving the world's water challenges.
- 19. Al has more often been compared to electricity than with water, as a general-purpose technology.
- 20. With this audience, I don't need to persuade you of the potential for AI to be a force for good, globally.
- 21. Enough has been said and demonstrated about the commendable applications of AI for drug discovery, personalised learning, energy optimisation, and many other positive use cases.
- 22. The downside risks are also familiar. Al systems have flaws, including bias and inaccuracies. They can be used by bad actors to create misinformation and cyber-crime at scale. They may also cause significant displacement effects to people and businesses, and its benefits may not be equally distributed within and across countries.
- 23. Al agents, acting autonomously, may behave in ways inimical to the interests of human societies. If that were to happen, and there is no reason why it cannot happen, then Al may present existential risks to the world, as much as water is an existential issue for Singapore.
- 24. Therefore, along with an attitude of embracing Al innovations, Singapore is equally committed to confronting its risks. And here is where we also see opportunity to contribute, through an approach which has similarities with Traditional Chinese Medicine.
- 25. Traditional Chinese Medicine or TCM for short, is commonly practised in our part of the world, as a complement to Western medicine. Practitioners of TCM view the body as an integrated system. Their interventions are designed to restore balance and achieve health.
- 26. One treatment in TCM is acupuncture, which involves fine needles inserted into strategic points in our bodies. The goal is to stimulate the channels through which "Qi", or energy, runs, to promote a beneficial, healthy energy flow throughout the organism.
- 27. In case you have never tried acupuncture before, and have trouble figuring out what I am saying, we have arranged for an acupuncturist to be with us all day tomorrow. If you feel stuck, or just curious, sign up for a 30-minute session, and maybe that will help you along. Consider this our contribution to helping you get into the *flow* while in Singapore!



- 28. Just as TCM practitioners strive for holistic health through a systematic approach, the systemorientation may well be the most robust approach to considering our strategies and efforts to address the opportunities and risks of Al.
- 29. We have therefore convened SCAI with a systems-orientation. We are very grateful for the partnership of the Topos Institute, and I want to personally thank its Chairman Ilyas Khan and CEO Dr Brendan Fong, for your intellectual rigour in shaping our program.
- 30. We are hopeful that this gathering, away from the hype and flashlights that so often surround AI conferences these days, we can find the <u>strategic points</u> on which to focus our efforts, while thinking about the <u>whole system</u> in which we and future generations live.
- 31. We believe that in doing so, we stand a better chance of arriving at a new equilibrium in Al development.
- 32. Specifically, our goal in the next few days together is to identify the <u>critical questions of AI</u>, that, if <u>answered systematically</u>, will enable AI to truly serve the global good. Asking the right questions gets us closer to the answers we need. That is how the world has practically eliminated smallpox, banned CFCs, and developed COVID vaccinations, but the articulation of these questions needs to be sharp and specific — needle-like if you will.
- 33. Two weeks ago, I attended a talk by Dr Lydia Liu, an incoming Assistant Professor at Princeton University, where she discussed her work on the delayed impact of fair machine learning. Incidentally, her work won the best paper award at the International Conference on Machine Learning in 2018. This was the second consecutive year that a Singaporean was a first author on the winning paper, after Dr Koh Pang Wei in 2017. Pang Wei is here with us today as a SCAI delegate.
- 34. Lydia's work showed that applying common algorithmic fairness criteria, for example, using credit scores as loan approval criteria, do not necessarily lead to fair outcomes for people over time. Instead, it is essential to go beyond pure theory to also consider <u>system dynamics</u> and <u>interaction effects</u> in order to make practical, positive impact. I found her conclusions to be very thoughtful. Lydia's spirit of moving beyond generalities, towards practical purpose, is very much in Singapore's DNA.
- 35. Similarly, for SCAI to be useful, we want to build upon declarations of principles, to deepen the conversations in concrete terms. We aim to systematically focus on the <u>outcomes</u> we want to achieve, identify the <u>current state</u> of the art, outline <u>promising approaches</u>, and articulate the means to <u>measure progress</u>.
- 36. Over the next three days, will we succeed in identifying a set of sharp, grounded, SCAI questions that help shape the global agenda on AI? We don't know for sure. SCAI is an experiment, and we will be collectively learning along the way.
- 37. But we know that we must try, because the age of AI is too important for us to sleep-walk into. Particularly, as a small country, constrained by the size of our workforce, AI's potential as a force multiplier holds much promise, provided we also help our people adapt effectively.
- 38. Al is, at the same time, a technology that no country can stop from entering its borders, nor its effects from impacting its societies.





- 39. On cross-border issues, Singapore has long believed in the need for international cooperation. This is why we have actively contributed and occasionally played leadership roles, such as in the UN Convention of the Law of the Sea, in the World Intellectual Property Organization, the Open-Ended Working Group on cyber-security, and the Forum of Small States.
- 40. The Singapore Conference on AI for the Global Good is our latest effort. SCAI complements other initiatives such as the United Nations High-Level Advisory Body (UN HLAB) on AI, the G7 Hiroshima Process, the UK AI Safety Summit and its upcoming State of the Science Report. These initiatives focus on the governance of AI, the prevention of risks or how we might apply AI in solving global issues like climate change.
- 41. SCAI allows us to take a step back, to ask what we need to unblock in order to create pathways for AI development and deployment.
- 42. We also hope that the friendships and connections forged here at SCAI will be the start of an international brain trust, to strengthen international cooperation on AI, and focus attention on the questions that deserve our most patient and persistent investigations.
- 43. A brain trust to address the complex issues in AI will require diverse perspectives. As such, SCAI delegates come from 16 different countries, and different disciplines and parts of the ecosystem, such as industry, venture capitalism, as well as government and nonprofits.
- 44. Four individuals in attendance today also serve on the UN HLAB. They are Jaan Tallinn, Marietje Schaake, Professor Alondra Nelson, and one of our Conference Directors, Dr He Ruimin. After SCAI, they will be flying off to New York for the first in-person meeting of the UN HLAB. Many other delegates are also flying off to other conferences, such as the Global Partnership on Al in India, for example.
- 45. Thank you for taking time to be here despite the exhausting travel schedule you have committed to. I hope you will bring insights from this conference to wherever you are headed, so that we can grow this community globally.
- 46. Likewise, for all our delegates, we cannot thank you enough for being willing to join Singapore in this endeavour.
- 47. We hope you will find this a meaningful use of your time, to <u>build the brain trust</u> that will help to truly bring about AI for the Global Good.

48. Thank you!

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