

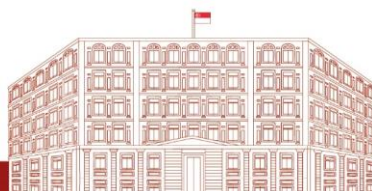
## Keynote Speech by Minister Josephine Teo on Day 1 of the inaugural World AI Cannes Festival (WAICF), 14-16 Apr 2022

### Introduction

1. Hello everyone, and greetings from Singapore. I would like to thank the EuropaIA Institute and the city of Cannes for inviting me to join you today at the first edition of the World AI Cannes Festival.
2. Alan Turing once expressed his hope that “...*machines will eventually compete with men in all purely intellectual fields.*” Today, we are getting closer to that reality. AI can see, hear, talk to us, and drive cars as well as we do. It can even do some things better than many of us, such as diagnosing diseases and playing chess! Turing may be right, but instead of just competing with us, AI can also complement our abilities. It has tremendous potential to transform the way we live, work, and play.
3. AI represents the next frontier in Singapore’s Smart Nation journey. This is why we launched our National AI Strategy in 2019. As the name suggests, this focuses our attention and resources at the national level to develop and deploy AI in key sectors. Since its launch, we have made good progress and gained some valuable insights. Today, I would like to share more on the need for the development of AI to focus on deployment, data sharing, governance, and partnerships.

### Focus on Deployment

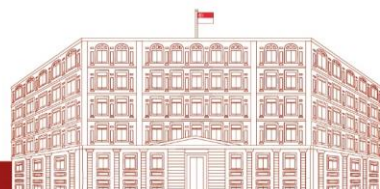
4. First, we need to focus on **deployment**.
5. Singapore decided early in our AI journey that we must anchor our strategy on AI deployment. Although AI allows us to dream big, these dreams will not become reality without a strong bias for action. Challenges such as regulatory hurdles, change management, stakeholder buy-in, and legacy infrastructure, can all threaten to stall AI deployment. Without adequate preparation, what works in the lab could fall apart when the rubber meets the road.
6. That is why, at the core of Singapore’s National AI Strategy, we focus on executing impactful programmes across key sectors. In 2019, we started with five National AI Programmes in healthcare, logistics, education, smart estates, and border security. We launched two additional programmes in Government and Finance last year. We will continue to explore new sectors where AI can significantly improve our lives and livelihoods.
7. Through these programmes, we seek not only to deliver real benefits to people, but also to overcome obstacles. For example, one project from our AI programme in healthcare is SELENA+. It is an AI system that analyses eye scans to detect



diabetic retinopathy. The system produces results in seconds and with accuracy levels of 90%. To get SELENA+ off the ground, several teams, including regulators, technical teams and public health institutions, had to work together to address issues such as regulatory compliance and process redesign. Today, SELENA+ has been deployed in 20 clinics, improving healthcare access and outcomes for Singaporeans. Having learnt from this project, we are now developing a platform to help hospitals deploy AI imaging-based medical solutions more quickly and effectively in the future.

## **Data**

8. The second point I want to touch on is the importance of **data sharing**.
9. While much has been said about how big data has led to advancements in AI technology, quantity isn't everything when it comes to data. It is equally, if not more important to gather good quality data from diverse sources. A smaller, but richer dataset can often produce better AI models than a larger, narrower one.
10. We need to create an environment that allows stakeholders across different sectors to share and create richer datasets. This will help us unlock more innovative AI applications.
11. We are investing in frameworks and platforms to help stakeholders exchange data in a secure manner, while ensuring data privacy. One such initiative is the Singapore Financial Data Exchange, or SGFinDex. Under this initiative, users can pool their financial data from across the public and private sectors into a single platform. This aggregation of data opens up new possibilities for banks and other financial service providers. They can now offer new AI-enabled services, such as predictive analytics, to help customers manage their finances.
12. We are also working with international partners to facilitate cross-border data flows, so as to fuel AI innovations.
13. In some cases, data sharing may not always be feasible due to regulatory, ethical and commercial sensitivities. This is why we are also investing in techniques such as Federated Learning. Federated Learning allows multiple parties to train AI models together, without the need to exchange raw data. For example, AI Singapore, our national AI R&D programme, built Synergos, an open-source platform which makes such learning more user-friendly and accessible.



## **Governance**

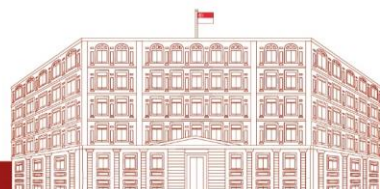
14. My third point is on **governance**.
15. AI is a rapidly evolving technology with significant benefits, but in equal measure, significant risks. For example, if datasets are not representative, unintended biases may manifest resulting in harm to certain groups of users. To manage these risks, we need good governance.
16. We can think of good governance in the same way that brakes work in a car. If used appropriately, we can move fast while reducing the risks in dangerous situations. If used unnecessarily, we will slow down the journey, or not move forward at all. We need to calibrate how we govern AI to manage risks without stifling innovation.
17. Singapore has therefore taken a balanced approach towards AI governance. It is more important to support the understanding of AI risks and good governance practices, than to impose strict, prescriptive regulations. To this end, we released the second iteration of our Model AI Governance Framework. It serves as a reference document for businesses to deploy AI at scale. We are also publishing sector-specific AI governance guidelines<sup>1</sup> to address the unique challenges of each sector and guide them in the responsible use of AI.
18. Beyond guidelines, we also invest in technical tools to help businesses assure themselves that their AI systems are fair and ethical. Our recently released Veritas toolkit, an open-source AI governance tool for the finance sector, protects customers of banks and insurance companies against unfair discrimination. We are also developing an AI governance testing framework that will help users to develop a better understanding of the AI systems they interact with.

## **Partnerships**

19. Finally, let me mention the importance of **partnerships**.
20. All stakeholders have a role to play in the transformation of our societies and economies through AI. Academia and industry need to work together to accelerate technological breakthroughs and apply these breakthroughs to real world problems quickly and effectively. Governments play a critical role to fund upstream research, facilitate collaborations between research and industry, and support the test-bedding and deployment of innovative new solutions.

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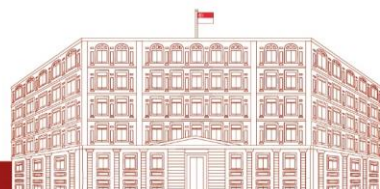
<sup>1</sup> Singapore has the Fairness, Ethics, Accountability and Transparency (FEAT) principles, to guide the responsible use of AI by financial institutions, and the Artificial Intelligence in Healthcare Guidelines to share good practice with AI developers and implementers, complementing our existing regulations of AI-Medical Devices.



21. Singapore invests heavily in R&D to support our AI ambitions. When we first launched our AI strategy in 2019, we announced that we had set aside \$500m to support AI activities across the spectrum of Research, Innovation and Enterprise. Last year, we announced that we would top up the funding by an additional \$180m. I am glad that we are seeing some early results from our investments. In the last two years, we have ranked first globally in terms of the Field Weighted Citation Impact (FWCI) of our AI publications.
22. Beyond funding, Singapore also invests in research and industry to test and refine novel AI technologies in a safe environment. For example, we recently launched the world's first Tropical Data Centre Testbed to trial cooling technologies and AI-driven energy optimisation algorithms. We were motivated by our unique challenge of being located in the tropics, where high temperatures and humidity impose a high energy cost to operating data centres. If successful, this testbed could give rise to technologies that significantly reduce global energy consumption by data centres. Besides physical testbeds, we have also adopted a sandboxing approach to making policies. The Personal Data Protection Commission (PDPC)'s data regulatory sandbox helps businesses pilot innovative uses of data and move forward with greater speed and certainty.
23. Beyond a robust domestic ecosystem, we also strongly believe in working with international partners. Events such as the World AI Cannes Festival are an exciting opportunity for international AI stakeholders to come together, share our experiences, and forge partnerships. I would like to take this opportunity to highlight that Singapore recently signed a Digital and Green Partnership (DGP) with France. The DGP builds on an earlier road map for deepening digital cooperation between both countries. It also serves as a platform for both countries to work on tangible projects in AI development such as joint AI deployment and contributing to the global governance of AI.
24. We look forward to establishing more AI-related collaborations with international partners and deepening existing ones. Aside from the Digital and Green Partnership, the EU-Singapore Digital Partnership provides yet another opportunity for exchanges on AI governance, testing frameworks and research into important topics such as trustworthiness, adaptability, and transparency of AI technologies. We will also continue to be actively engaged at multilateral platforms like the UN and OECD, as well as advance the development of trusted and responsible AI through the Global Partnership on AI, of which we are a founding member.

## **Conclusion**

25. Once again, thank you for the opportunity to share Singapore's approach to AI.
26. To conclude with another quote by Turing: "*We can only see a short distance ahead, but we can see plenty there that needs to be done.*" There is indeed much



more that we can, and must do together as the global community of AI stakeholders.

27. I wish everyone an enriching and fruitful conference ahead. Thank you.

