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AT THE ASIA PACIFIC AGRIFOOD INNOVATION SUMMIT, SINGAPORE  
INTERNATIONAL AGRIFOOD WEEK ON 31 OCTOBER 2023**

**Shaping A More Climate-Resilient and Future-Proof Food System In Asia**

Distinguished Guests,

Ladies and Gentlemen,

**Introduction**

1. Good afternoon. Thank you for joining us at the Summit and staying through the first day. I'm sure you are very excited about all the innovative solutions showcased here and at the Expo today. On behalf of Enterprise Singapore, it is my pleasure to join you today at the Asia-Pacific Agrifood Innovation Summit, to exchange strategies and perspectives on our joint mission to create a climate-resilient and future-proof food system in Asia.
2. Enterprise Singapore is a public economic agency that champions enterprise development and works with local companies to build capabilities, innovate and go global. We also support the growth of Singapore as a hub for global trading and startups.
3. This year's conference theme, "Accelerating the Transition to a Climate-Smart Food System," deeply resonates today. This is because of where we are located along the equator, where extreme weather conditions expose vulnerabilities in our global food system. Climate change will have significant and severe economic and social impacts globally. We felt this a lot more in Singapore, as we watched as temperatures reach record-highs this year, with global mean temperatures increasing by 0.52°C.
4. This year's high temperatures are especially concerning for rice farmers in Southeast Asia, which produces 30% of the world's rice. Thailand, the world's second-largest rice exporter, expects rice yields to decrease by up to 6% due to droughts this year<sup>1</sup>. This will impact half of the world's population, especially for the region relying on rice as a staple. Such weather shifts can lead to a multifaceted crisis, spanning droughts and floods, food shortages, livelihood destruction and inflation issues. Overall, the Asian Development Bank has reported that Southeast Asia's GDP could fall by 11% by the end of the century due to climate change<sup>2</sup>.

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<sup>1</sup> Thai PBS World, 4 Jun 2023, "El Niño could reduce Thailand's rice output by up to 6 percent this year"

<sup>2</sup> Asian Development Bank, 2015, "Southeast Asia And the Economics Of Global Climate Stabilization"

5. The time to act is now. Among us today are corporates, investors, and governments. We need to come together to focus on scalable and affordable technologies and accessible solutions that address these urgent needs. We need to develop the ecosystem together.

### **Focus on sustainability**

6. As a nation with less than 1% arable land mass, Singapore is acutely aware of the need to do more with less. We have the experience to do so and are committed to international sustainability efforts. Our goal is to become a leading Agri-Food tech innovation hub focusing on two key themes – intensified lower-impact urban farming and alternative protein production.
7. Imagine a future where climate-resilient technology allows for sustainable, cost-effective, and consistent cultivation of produce. With advancements in agricultural practices and climate adaption, this future is within sight. Today, Blue Aqua International's Recirculatory Aquaculture System cultivates fish in controlled indoor environments to boost overall local fish production by 25%. As we continue to progress in precision agriculture and vertical farming, we expect to see significant reduction in environmental impact. This includes a projected 6% reduction in fossil fuel use and 4% reduction in water use in the United States alone<sup>3</sup>. By 2035, the global shift to plant-based meat and eggs will save the same amount of carbon emissions Japan produces in a year, and enough water to supply the city of London for 40 years<sup>4</sup>. Agri-food technologies will help us achieve this vision of a more sustainable and future-proof food system.
8. It is an exciting yet daunting road ahead. Singapore, alongside our global partners, will play our part in shaping a more sustainable and future-proof food system in Asia.

### **Collaborating with global partners**

9. **Firstly, we aim to strengthen ties and collaborate with our global partners** to catalyse knowledge-building, amplify market development initiatives, and foster talent exchange.
10. Knowledge-building efforts specific to region and country are critical. It is critical to get to know a country, as each country is heterogeneous. Enterprise Singapore collaborated with Asian and European programme partners via the Global Foodture Programme to foster knowledge exchange and co-innovation between Asian and European companies. In the past year, the programme has facilitated knowledge sharing via workshops on topics ranging from alternative proteins to agricultural support solutions. Business missions to Thailand and Singapore were organised as well. Currently, over 700 companies across Singapore, Korea, Thailand, and Europe are connected via this platform.

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<sup>3</sup> Association of Equipment Manufacturers, 6 Nov 2022, "The Era of Precision Agriculture has Arrived" (article), <https://www.aem.org/news/the-era-of-precision-agriculture-has-arrived>

<sup>4</sup> Boston Consulting Group & Blue Horizon Corporation, 24 Mar 2021, "Food for Thought: The Protein Transformation" (report), <https://www.bcg.com/publications/2021/the-benefits-of-plant-based-meats>

11. Today, the international regulatory landscape is moving favourably towards adoption of new agrifood solutions and products. As startups that successfully navigate complex regulatory requirements enter new markets, the proliferation of new product categories and offerings will in turn attract new consumers and grow critical mass. Enterprise Singapore is taking the first steps to build understanding of the regulatory landscape to enhance cross-market access through a Europe and US focused regulatory study. We look forward to partnering global trade compliance experts to facilitate entry into key demand markets.
12. Talent is key to building an Agri-food tech innovation hub and growing the sector. In the area of alternative proteins alone, new skills such as, protein texturisation experts, highly skilled machinery operators, and product formulators will be in high demand. These are not necessarily the skills and jobs readily available today. We need to build a strong talent base today, one that is adaptable across regional needs. Earlier this year, Enterprise Singapore and SGInnovate co-hosted a career matching session with Netherlands' Wageningen University, to provide exposure and cross-country training opportunities for a new generation of agri-food tech scientists and engineers. We hope to continue working with other global knowledge institutes to offer cross-border opportunities for learning and collaboration and to strengthen the global agri-food talent base.
13. We continue to invite global partners to collaborate and innovate with Singapore. Let us foster the flow of knowledge, talent, and business exchanges together.

#### **Enhancing capabilities as a regional test bedding hub**

14. **Secondly, we aim to enhance key capabilities as a regional test bedding hub for sustainable solutions in agriculture production and food manufacturing.** In achieving milestones like the launch of the world's first novel foods framework and approval of cultivated meats, we quickly realised that creating sustainable solutions will require a strong ecosystem, that is not something any one party can do. The majority of startups fail. Strong test-bedding infrastructure and capabilities will help to strengthen chances of success for the commercialisation of new solutions.
15. We have partnered with our Institutes of Higher Learning to set up Centres of Innovation, including the Urban Agriculture Centre of Innovation at Republic Polytechnic and the Aquaculture Innovation Centre and Temasek Polytechnic to encourage Agritech companies to tap relevant expertise to develop novel, new products. We plan to expand support to help food manufacturing SMEs accelerate their innovation in new, emerging areas. More details will be shared shortly.
16. It is also important to develop solutions applicable to wider regional demands. Startups based in Singapore are tapping on our accessibility to regional markets to testbed solutions. AgriG8, a Singapore startup, is conducting product development and pilot programs in Indonesia, Thailand, Myanmar, and Vietnam to trial remote sensing in farms and rewarding sustainable farming practices. Similarly, Forte Biotech is enhancing farm productivity and profitability by using affordable and rapid disease diagnostic kits for shrimp farmers in Vietnam.

17. Beyond regional access, an established innovation ecosystem is critical to attracting global giants. In 2021, a prominent US agribusiness, Archer Daniels Midland – better known as ADM – opened an innovation lab in Singapore to capitalise on the rising demand for plant-based food in the Asia-Pacific market. The established trading and logistics network provide a foundation for companies looking to establish a base and connect with consumers in the region.
18. We are committed to strengthening our agri-food companies and eco-system through enhancing the test bedding environment and continue to welcome partners interested in creating and deploying new sustainable solutions for the region.

### **Accelerating commercialisation of disruptive technologies**

19. **Lastly, we seek to accelerate the creation and commercialisation of disruptive technologies through demand-led innovation.** Innovation efforts for sustainable solutions are meaningful only when embraced by end-users—corporates and consumers. We need to focus on demand-led innovation, by facilitating collaboration between problem-statement holders and solution providers to co-create practical, implementable, and innovative solutions. In Singapore, the Sustainability Open Innovation Challenge just launched its 5<sup>th</sup> edition today and has Sustainable Agriculture & Trade as one of the four themes. The Challenge aims to bring together industry partners and innovators to co-develop sustainable solutions. An earlier edition saw the Pan Pacific Hotel Group matched with Evercomm who successfully helped to improve their food waste collection and management. Over a 9-month pilot trial between July 2022 and March 2023, the partnership saw a 43% reduction in food waste. They have now implemented the food waste tracking solutions across their F&B outlets. Agri-food giants such as Olam Agri and CNH Industrials have also found matches through the challenge.
20. We recognise that this cannot be accomplished by a government alone. It is vital to bridge the various stakeholders in the ecosystem. Platforms such as Singapore Agri-Food Innovation Lab support large MNCs and agri-commodity players by collating problem statements and connecting them with cutting edge R&D solutions, via their network of innovative startups and academia. This momentum will carry into 2024 with more ecosystem efforts to drive sustainability-related innovations, particularly in food resource valorisation to support the circular economy, and sustainable food packaging.
21. Global demand-drivers are invited to tap onto our platforms to source for solutions in Southeast Asia. We also encourage solution providers in the region to continue using Singapore to access a global pool of corporates.

### **Conclusion**

22. In closing, I would like to reiterate the three ways that you can collaborate with Singapore to accelerate sustainable agri-food tech innovation in Asia:

- a. Firstly, let us join forces to foster knowledge, talent, and innovation exchange to collectively create global impact.
- b. Secondly, leverage our world-class R&D and test bedding facilities to develop key capabilities and sustainability solutions in agricultural production and food manufacturing for the region.
- c. Lastly, we must drive demand-led innovation to speed up the creation and commercialisation of disruptive technologies that are solutions to the pressing needs of the region.

23. As we kickstart the Singapore International Agri-Food Week, I welcome you to join us in creating opportunities for collaboration and innovation partnerships. Regardless of the challenges of tomorrow, we need to act now and act swiftly, to co-create the necessary agri-food innovations for a brighter and more sustainable future. Thank you.

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