REMARKS BY MR HENG SWEE KEAT,
DEPUTY PRIME MINISTER AND CHAIRMAN OF THE NATIONAL RESEARCH FOUNDATION AT THE OPENING OF XORA INNOVATION'S OFFICE,
21 OCTOBER 2024

Mr Dilhan Pillay Sandrasegara, Executive Director and CEO, Temasek,

Mr Goh Yew Lin, Chair, Xora

Mr Alan Thompson, CEO, Xora

Ladies and gentlemen,

1. Good morning. The official opening of Xora's new premises here at Fusionopolis marks a new chapter for Xora, five years into your journey of pursuing deep tech innovation.

    a. About 15 years ago, we established Fusionopolis as an integrated research and development complex to foster closer and more dynamic linkages within our R&D ecosystem.

        i. We sought to bring in players from the research, innovation and enterprise or RIE domains and build stronger networks and relationships so as to catalyse collaborations.

        ii. Over the years, a diverse mix of multinational corporations, research organisations, government agencies, startups and VCs have set up base here.

    b. Xora is the latest member of the Fusionopolis family, and I trust that you will infuse this ecosystem with new energy.

        i. Your portfolio companies I spoke to earlier are excited to be here and to tap on the connections and connectivity within Fusionopolis.

        ii. So I congratulate Yew Lin, Alan and the team at Xora, as well as Dilhan, Russell and all partners and Xora's portfolio companies, on this milestone.

2. Alan earlier spoke about Xora's commitment to deep tech venture building, including through your Xora Venture Labs programme, and the importance of nurturing talent in building successful deep tech startups.

    a. Indeed, the opening of this new office is well-timed to coincide with a vibrant period in our annual innovation calendar.

        i. A week from today, Chuan Teck and his team at Enterprise Singapore will hold the Singapore Week of Innovation and Technology or SWITCH.

        ii. SWITCH brings together some of the most exciting founders, investors and industry leaders from around the world, many of whom work at the forefront of deep tech and frontier technologies.

    b. There is also growing interest in Singapore in deep tech innovation.

        i. In Singapore, the number of deep-tech deals in 2023 grew 31% year-on-year, with 25% of total deal value last year invested in deep tech startups.

3. The Singapore Government is committed to building up a strong and vibrant deep tech ecosystem. We recognise the potential of deep tech to transform entire industries and address global challenges.

    a. Alan earlier mentioned Xora's three focus areas – compute and communications, climate and energy, and AI in physical industries.

        i. And your portfolio companies, including those I met earlier, are doing cutting-edge as work in areas such as enabling electrification, and using AI to design next-generation solar cells.

    b. Around the world, deep tech is being harnessed to address climate change, enable healthier lives, and in a whole range of other areas.

        i. In sustainability, for example, scientists and startups are tapping on artificial intelligence and advanced materials to accelerate the pathway towards greener energy, including in nuclear fusion.

ii. During the COVID pandemic, research into mRNA, which started many years before the virus almost brought the world to a standstill, proved critical in the development of effective vaccines.

4. But as these examples show, the pathway to enabling deep tech is not straight-forward.

a. Last year, I visited 'The Engine', a deep-tech incubator and accelerator at MIT. They refer to deep tech as 'hard tech' or 'tough tech'.

b. Deep tech innovations are at the frontiers of science and require breakthroughs in science and engineering.

i. This also means a long gestation period before results can be seen. Hence, patience and perseverance are needed.

ii. But given the promise, some investors are prepared to invest for the bigger returns, even if this is less certain, and of longer duration.

5. To undertake the 'higher risk, higher reward' nature of deep tech, one approach is to bring together the strengths and capabilities of different players.

a. Each of us – the Government, researchers and leaders in universities and research institutes, innovators and investors, and VCs, has an important role.

6. **<u>First</u>, the Singapore Government has invested and will continue to invest resources to build capabilities and develop talent to achieve excellence in the basic sciences**.

a. Through sustained investments over the years, universities in Singapore and our A*STAR research institutes have developed strong research credentials.

i. Three of our autonomous universities – NUS, NTU and SUTD – were ranked within the Top 10 in Asia for research output by QS in 2024.

ii. Our universities have also been ranked among the top globally for expertise in specific subjects, including materials sciences, chemistry, computer and data sciences, and environmental sciences.

b. Together with our 17 A*STAR research institutes, Singapore has developed peaks of research excellence in areas such as membrane technologies for water, biotechnology, quantum technology and advanced materials.

7. **<u>Second</u>, we are working with partners from around the world to promote greater translation and innovation**.

a. We have facilitated closer linkages between researchers and industry so that our growing pool of scientific and research insights can be translated into market-relevant IP and globally relevant solutions.

b. Some leading companies are building partnerships with our universities through corporate labs to address practical challenges.

i. Today, we have more than 20 corporate labs across our universities working in areas like next-generation photovoltaics and low-carbon solutions.

c. Deep-tech start-ups are also looking ahead, to anchor and grow their R&D capabilities here in Singapore.

i. Alan announced earlier that one of Xora's portfolio companies, Celestial AI, has chosen Singapore to establish its Innovation Centre for silicon photonics and to manage its global supply chains.

8. **<u>Third</u>, we need dynamic entrepreneurs, backed by smart capital, to unlock new growth opportunities and build successful deep tech startups**.

a. Sometimes, researchers who come up with important scientific and technological breakthroughs can themselves lead startups to take these breakthroughs to market.

i. But this is the exception rather than the norm.

b. Often, it takes a different group, with deep market knowledge and entrepreneurial experience, to turn scientific insights into real-world applications.

    i. Our universities have put in place programmes to identify, enable and nurture such talent, for example through Block71 and the Graduate Research Innovation Programme or GRIP.

c. For deep tech start-ups with their long gestation period, entrepreneurs need to be supported by deep and patient capital that can commit through boom-and-bust cycles.

d. We welcome global deep tech VCs to participate in our local deep tech ecosystem.

    i. This is important because global capital from VCs based in the US or Europe, and even larger Asian markets, bring with them access to markets, networks and talent which are critical for the success of deep tech startups.

9. **In short, we need players with different strengths and capabilities to work together and pursue a common cause to realise the promises of deep tech.**

a. By nurturing entrepreneurs, and mobilising and deploying capital, entities like Xora can strengthen our wider RIE ecosystem.

    i. Being part of the Temasek family, your combination of a disciplined investment approach and committed venture-building platform allows you to take a longer-term view, and to work together with the rest of Singapore's innovation ecosystem to grow impactful deep tech startups.

b. Since making your first investment in 2021, Xora has built up a portfolio of 12 companies today.

    i. Over the past five years, you have built up your investment team comprising both operators and builders.

ii. The involvement of entrepreneur-investors is important in the earlier stages of deep tech startups, when they can be paired with founders to venture build scalable deep tech startups.

c. The Government, on our part, will collaborate with early-stage deep tech investors.

i. Enterprise Singapore is partnering Xora in deep tech venture building through the Startup SG Accelerator incentive.

ii. SEEDS Capital has also appointed Xora as a co-investment partner and will collaborate with them to provide deep tech startups with access to capital for development and growth.

d. Tapping on your global mandate and connectivity, Xora can also help bridge global VCs with Singapore-based startups, whose solutions can in turn be scaled regionally and globally.

i. For example, you played an active role in syndicating the US$12.45m seed round for Amperesand, a spinoff from NTU, with investors such as Material Impact, TDK Ventures and Foothill.

10. With the opening of this new office, I encourage Xora to deepen your engagements with the rest of our ecosystem and venture-build even more innovative and impactful deep-tech startups.

a. It is encouraging to see not only how your portfolio companies have grown, but also how they are deepening our ecosystem, to catalyse further waves of innovation.

i. Alan mentioned earlier, for example, that Amperesand and PSA will embark on a collaborative trial to deploy and pilot Amperesand's Solid State Transformer technology in PSA's ports.

b. I also encourage Xora to make the most of your strategic location here at Fusionopolis to widen your pool of collaborators.

i. Over the past year, Xora has collaborated with NUS and NTU to spin out more deep tech startups from these two universities.

ii. Venture partners from Xora are working closely with researchers to iterate on technology and business strategy before launching their deep tech ventures.

iii. I am happy to announce today that A*STAR will now also be joining this collaboration to work together to accelerate the translation and commercialisation of A*STAR's research and technologies through these spinoffs.

iv. The overall collaboration will also be extended for an additional five years, till 2030 – a strong commitment to a long-term partnership.

c. Going forward, I would also like to suggest that Xora consider further expanding our collaboration to include other universities like SUTD, SIT and SMU, each of which has its distinctive strengths in tech and innovation.

11. Let me conclude. Deep tech is a tough niche, but one that offers great hope for addressing many global challenges.

a. To nurture a successful and dynamic deep tech ecosystem, we need to mobilise different players to work together across our research, innovation and enterprise ecosystem.

b. Xora plays an important role in venture building and investing, working with and guiding promising entrepreneur-scientists in shaping transformative startups that offer impactful solutions for Singapore, Asia and the rest of the world.

c. I congratulate Xora once again on the opening of your new office and look forward to the synergy that you can bring.

d. Let me also encourage all of you, including your partners and portfolio companies here, to engage fully with the opportunities lined up in the weeks ahead, especially at SWITCH.

e. Thank you.