

**SPEECH BY MR DESMOND LEE, MINISTER FOR SOCIAL AND FAMILY DEVELOPMENT AND SECOND MINISTER FOR NATIONAL DEVELOPMENT, AT THE PROFESSIONAL ENGINEERS BOARD (PEB) DAY OF DEDICATION ON 11 NOVEMBER 2017, AT 11:15 AM, GRAND BALLROOM RITZ-CARLTON HOTEL**

Er. Ho Siong Hin, President, PEB

Distinguished Guests

Ladies and Gentlemen

1 A very good morning. I am very glad to be here with you on your annual Day of Dedication.

2 Allow me to begin by congratulating our newly minted Professional Engineers (PEs) and Specialist PEs who will be receiving your certificates today. It caps a journey that you have taken and today marks the beginning of a life of professionalism and dedication to upholding principles in keeping our city safe.

3 I would also like to commend the 12 new graduates from NUS and NTU engineering programmes who will be receiving the Professional Engineers Board (PEB) Gold Medal Awards for outstanding performance. I am sure PEB will follow your progress throughout your career.

4 For a city to work, for industry to progress, and for innovation to be able to push the boundaries of possibility, we need a core of good engineers here in Singapore.

5 We know that being an engineer is not easy. Your work has a direct impact on public safety. People put a lot of faith in our engineers. And so the profession exacts high standards.

6 This is why we constantly work with PEB and with various industry partners to try to ensure that our policies, legislations and rules are in step with your needs and the needs of the profession.

7 For example, we amended the Professional Engineers Act in September to strengthen the profession. Er. Ho Siong Hin has already mentioned some of the specific amendments. The aim was to raise the standards of professional engineering, to provide a more pro-

enterprise environment for local firms, and to help our PEs better capture overseas opportunities.

8 In fact, one of the key amendments of the Bill, which we worked on in the Ministry, PEB and with our partners, is to give PEB the powers, role and responsibilities to work with stakeholders to strengthen, develop and grow the engineering profession in Singapore. That is a very important charter. We look forward to working with PEB, enabling it to reach out and network with universities, institutions, engineering associations, firms and all of you to leave a legacy where people aspire to join the profession, aspire to excellence and push the boundaries of possibility.

### **Growing Infrastructure Needs**

9 We will need many more good engineers in Singapore. I sketch out just 3 of the many reasons for this.

10 First, our city continues to grow and develop. And because of our population demographic changes and also climate change, these needs will evolve.

11 Specifically, we can expect greater demand for greener, and more sustainable urban developments, as well as an inclusive built environment to accommodate our silver population.

12 At the same time, older infrastructure will need to be maintained, augmented or even replaced so that our city can age gracefully, but at the same time, continue to rejuvenate and renew itself. It is one thing to design and build the city, but it is another important task to maintain it, keep it functioning and in tip-top health. Engineers are like the doctors of the city.

13 While it is clear that we will require more engineers to design, build, and maintain this infrastructure, we also need innovative engineers who draw on deep expertise across a wide range of specialisations. Here, PEB plays a vital role in ensuring that the relevant professional engineers are registered and well supported.

14 For instance, chemical engineering was introduced as a new branch last November, to ensure the safety of petroleum refining facilities and chemical plants. In just a year, PEB has registered close to 50 Chemical PEs.

15 Er. Choo Li Fen from Shell Chemicals is among this first batch of Chemical PEs. After graduating with First Class honours in Chemical Engineering from NUS, Li Fen spent ten years working in a variety of portfolios in the field. Now she is a PE. Congratulations to Li Fen!

16 Apart from chemical engineering, four new specialised branches of professional engineering have also been introduced. These are in the areas of access platform, crane, lift and escalator, and pressure vessel engineering. Registrations began this year, and 95 of the 97 new specialist PEs are from these four branches. This is very encouraging.

### **Transformation of the Construction Industry**

17 A second key demand driver for strong engineering capabilities is the transformation of the construction sector.

18 Last month, we launched the Construction Industry Transformation Map (ITM) with BCA and our industry and union partners. This is a roadmap to make our construction industry more future-ready.

19 In the process, this will also generate and create more opportunities for our architects and engineers – especially for those who are very keen in the digital realm and are fish in water when it comes to computers, computer engineering and computer modelling. Construction now opens a whole new horizon for them because we are re-processing engineering in the entire value chain – from design to construction to maintenance for the whole lifecycle of the building.

20 The ITM is premised on technology, largely but not solely, and focuses on Design for Manufacturing & Assembly (DfMA) which makes construction more like manufacturing, relying on Integrated Digital Delivery (IDD), and of course, green and sustainable Buildings.

21 I will not go into the details, but as with most technologically-driven changes, the ITM will shift manpower demand and job prospects toward highly-skilled areas of work including engineering. In this regard, we are targeting to train 80,000 professionals in the built environment sector in these areas by 2025.

22 We are working with the industry to create more internships, training opportunities and development programmes to support both fresh entrants and existing professionals. We have set up a Built Environment SkillsFuture Taskforce, to strengthen the synergy between the

construction industry and our Institutions of Higher Learning (IHLs), so that our syllabus and curriculum cater closely to the industry's needs not just today, but tomorrow and the day after. We need to continue to keep our ecosystem tight and strong – a continuous feedback loop – in order for us to position our graduates and graduates-to-be so that when they emerge, they have the skills ready for tomorrow and the day after.

23 And we are also in the midst of establishing a Construction Transformation Office in BCA. So from being principally a regulator, BCA will reshape itself, bring in new people and skills, bring in people from industry, in order to coordinate and push the end-to-end transformation of the entire construction value chain. It cannot do it alone; it needs to do it with our industry partners, IHLs and firms so that it becomes not just a regulator but also an industry developer – just like PEB is now positioned and chartered to be one of the developers of the professional engineering sector of Singapore.

### **Opportunities in Southeast Asia**

24 Third, there are growing opportunities beyond our borders. We are looking very hard at transforming Singapore, creating new opportunities, re-engineering the entire built environment value chain. But beyond Singapore, there are tremendous opportunities – as some of the engineers here will be able to attest. Asia needs more infrastructure. So does Southeast Asia. Southeast Asia alone is estimated to require some US\$3 trillion in infrastructure investment from now until 2030. This presents huge opportunities for our PEs to offer your services, expertise and knowledge in the region.

25 We have worked to make it easier for our PEs to do so through Mutual Recognition Arrangements (MRAs) – quid pro quo, they unlock access but we also do the same so that it is a fair arrangement.

26 In general, Singapore-registered PEs seeking to practise in another country will need to go through that country's qualification process – and you know how much of a barrier that might potentially be. But MRAs can potentially streamline this process.

27 Specifically, under the ASEAN MRA, if you are a qualifying Singapore-registered PE, you can be registered and recognised as an ASEAN Chartered PE (ACPE). As an ACPE, you can then apply to the professional authorities of ASEAN countries to practise in collaboration with their local PEs, as a Registered Foreign PE (RFPE).

28 In short, you do not have to go through the full qualification process, if you practise in collaboration with a local PE in that jurisdiction. You can gain experience, gain exposure, fly our flag, show Singapore's engineering capabilities and eventually, that may allow broader penetration of regional and foreign markets.

29 I am very happy that 15 ACPEs will receive your certificates today – a very good start. You will join the existing 250 Singapore ACPEs, some of whom have already ventured out into the region.

30 These include Er. Ling Shiang Yun. He is particularly active in Vietnam, as he sees great potential in its construction sector. Projects he has worked on include the billion-dollar ParkCity Hanoi development.

31 Er. Tan Seng Chuan is the first RFPE to be registered in Myanmar. He thinks that RFPE registration is a useful way to tap into larger markets. He also believes that Singapore's experience and reputation in city planning, energy infrastructure, and water management provide an edge for Singapore PEs seeking opportunities in the region.

32 It is very encouraging to see them and others like Shiang Yun and Seng Chuan leading the way in internationalisation. I wish them and you all the best, and I hope that more of us will be inspired to push the boundaries of possibility. Thank you and all the best on your Day of Dedication.

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