

**SPEECH BY DR JOHN KEUNG, CHIEF EXECUTIVE OFFICER, BUILDING AND CONSTRUCTION AUTHORITY, AT THE SINGAPORE POLYTECHNIC'S 52<sup>ND</sup> GRADUATION CEREMONY (SCHOOL OF ARCHITECTURE AND THE BUILT ENVIRONMENT), 25 MAY 2012, 2.10 PM, SINGAPORE POLYTECHNIC CONVENTION CENTRE**

Members of Singapore Polytechnic's Board of Governors  
Distinguished guests,  
Ladies and gentlemen,

**Introduction**

1 A very good afternoon to all of you. I am delighted to join you here at the 52<sup>nd</sup> Singapore Polytechnic Graduation Ceremony. I would like to start by extending my heartiest congratulations to all the graduands from the School of Architecture and the Built Environment who will be receiving your diplomas today. It is really good to see so many of our future leaders and stakeholders for the built environment profession. I can assure you that your journey in this industry is going to be challenging, but at the same time rewarding.

2 As someone who has started out as a town planner, I have witnessed and am amazed with how much the urban landscape has been changed over the years. In the past decade, the topic on sustainability has taken the hot spot worldwide. But you may ask, what has climate change got to do with us, the built environment professionals? Well, a lot. The global concern on climate change has created the impetus and opportunity for us, the professionals who are responsible for the built environment to innovate, break new grounds, transform our industry and make our city, our region and our habitat more sustainable and a better place to live.

**A resource-challenged city-state: Singapore**

3 The development of a sustainable city is however NOT a new concern for Singapore. Ever since our independence, priority has been placed on greening our city, cleaning up our rivers, securing our water supply and managing our waste in the best way possible. Going forward, with our limited land resources and the ever growing demand for housing, schools, parks, offices, shops, roads, railways and so on, how do we build a liveable and sustainable city, our home? How could we, the built environment professionals, go forward and play our part in sustainable development in Singapore and in the region? While, obviously, I do not have all the answers, I do want to share with you just two key emerging trends which could potentially change the face of our industry and the built environment. One is on the product we deliver to our end-users, the people, and two is on the process, the way our industry is going to work.

**The Start: BCA Green Mark Scheme**

4 The first emerging key trend is the green building movement in Singapore, which shape the product, the built environment we create after all our hard work.

While energy efficient building design has been in place in Singapore since the late seventies, the green building movement began in earnest only in 2005 with the launch of the

BCA Green Mark scheme. The Green Mark is a green building rating system which assesses the sustainability level of a building in terms of energy efficiency, water savings, environmental protection and indoor environmental quality.

5 Through our two Green Building Masterplans, we introduced a slew of measures including financial incentives, capability building programmes, and regulatory and administrative policies to move stakeholders – developers, designers and builders – to design and build green buildings and also retrofit existing buildings to be environmentally sustainable. I am glad to say that currently, we have close to 1,200 green building projects with a total floor area of 37 million square metres, which is about 16% of the total gross floor area of buildings in Singapore.

6 Our green building movement is not just limited to within Singapore. In the short 5 years, we have close to 150 Green Mark-rated overseas building projects in the region from China, to the Southeast Asia, the Indian sub-continent, the Middle East and even Africa. This clearly demonstrates Singapore's position as a regional green building leader and we have been recognized as such late last year by the World Green Building Council in its inaugural World Green Building Awards.

7 These are good news for all of us, including all of you who are going to make a career in the built environment profession. I dare say that going forward, the market for green buildings is huge not just because of our vision to have 80% of all our buildings, including existing buildings, to go green by 2030, but also the huge potential markets in the region for greening both their new buildings and existing buildings.

#### **Awards and Achievements in Sustainability**

8 For this reason, BCA has also been actively involved in helping our overseas counterparts in their green building movement. Together with the Chinese government, we have recently worked on two flagship projects, the Sino-Singapore Tianjin Eco-city and the Guangzhou Knowledge City, both aimed to be a model for sustainable development. There are also quite a number of smaller projects that we are working on in other Chinese cities and in the region with many Singapore companies to create opportunities for our built environment professionals and to do our part for the environment.

#### **BIM: the new construction productivity trend**

9 Besides the green building movement, the second emerging key trend in our industry is on the process, the way we work in future. Specifically, I am talking about the more intensive use of information technology in driving changes in our industry, including our Productivity Movement.

As recognized by many advanced countries, one of the keys to achieving a quantum leap in productivity will be the widespread use of information technology in construction, particularly the adoption of 3D Building Information Modelling, commonly known as BIM. You may have heard of this advanced computer technology that allows building performance to be simulated digitally, so that design conflicts can be collectively resolved upfront to avoid costly abortive work at the later stage, saving time and effort as rework and wastages are minimized.

10 BIM is an enabling tool that integrates the entire value chain from planning to design, prefabrication, construction, scheduling, costing, operation and maintenance. It is thus an advantage for all newly graduates like you to be BIM ready, with the 2-D Computer Aided Design (CAD) drawings gradually being replaced by 3-D.

### **BIM Roadmap**

11 As part of our plan to improve the industry's productivity in the next decade, we aim to get 80% of our industry to use BIM by 2015. This will involve the public sector taking the lead in the adoption of BIM and more collaboration on BIM among all professionals, businesses and public sector agencies involved in creating the built environment. Mandatory regulatory BIM e-submissions would be progressively introduced from 2013 to 2015, starting with architectural drawing for bigger projects, to populate BIM to all segments of the entire value chain in our industry.

12 To assist the industry cope with the change, the Centre for Construction IT (CCIT), set up by BCA, is providing BIM training programmes and workshop sessions to build up BIM capability and capacity. The CCIT within the BCA Academy was also tasked to promote the benefits of the technology.

With BCA Academy's short courses and Specialist Diploma in BIM, BCA is also working with various tertiary institutions to include BIM training in their curriculum. As of April this year, there are about 1,100 professionals in the industry and graduates who have been trained in BIM.

13 We received very strong support from the tertiary institution, including the Singapore Poly. Indeed, in the BIM competition held during the annual 2nd Singapore Construction Productivity Week, held two weeks ago, Singapore Polytechnic had outshined its competitors and had clinched a total of three awards.

14 As you can see, BIM is slowly but steadily gaining its reputation in the industry. If you are already well versed in BIM, you may be glad to hear that many companies are actively recruiting graduates with BIM training. A recent CCIT survey, for example, found that on average, companies are willing to pay 10 to 20% more for graduates who are BIM-trained.

15 With the onslaught of BIM through the various incentive scheme, legislative requirement, capability development and mandatory requirement, I am confident that the use of BIM will be pervasive in time to come, transforming the way we plan and design and the way we build with minimal rework, much less wastage on site, better quality buildings and a shorter construction time.

### **Conclusion**

16 In summary, our industry is changing rapidly in both the way we work and the product we deliver to our end-users. Overall, there are tremendous growth opportunities in the built environment profession and enough room for all of you to experiment with new ideas, create much vibrancy in our work and do our part for the environment. Do take up the challenge to

transform our industry and bring it to a new height. You will then find an industry that is sustainable, productive and above all rewarding for yourselves.

17 Once again, my congratulations to all of you!

Thank you.