

EMBARGOED UNTIL AFTER DELIVERY AT 9.35 AM ON 5 FEB 2007 (MONDAY)
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SPEECH BY DR TONY TAN KENG YAM, CHAIRMAN OF THE NATIONAL RESEARCH FOUNDATION, AT THE OFFICIAL OPENING OF THE CENTRE FOR LIFE SCIENCES (CELS) BUILDING ON 5 FEBRUARY 2007, 9AM, AT THE NATIONAL UNIVERSITY OF SINGAPORE

Mr Wong Ngit Liong
Chairman
NUS Board of Trustees

Prof Shih Choon Fong
President
National University of Singapore

Distinguished Guests

Ladies and Gentlemen

Good morning

I would first like to thank the National University of Singapore (NUS) for inviting me to officiate the opening of the NUS Centre for Life Sciences building (CELS) this morning.

Developing an R&D economy in Singapore

NUS has come a long way since its beginning as the Straits Settlements and Federated Malay States Government Medical School in 1905. Raffles College, which later merged with the Medical School to form the University of Malaya (later evolving to become the National University of Singapore) was established in 1949 with a Faculty of Science which had an initial enrolment of 10 students. Since then, the NUS Faculty of Science has grown rapidly, and now has a total enrolment of some 4,500 students.

The launch of the Life Sciences programme in NUS in 2002 by the Yong Loo Lin School of Medicine and the Faculty of Science was a critical step to support the growth of our Biomedical Sciences industry. In 2000, the Government embarked on building the Biomedical Sciences industry as an additional growth engine for our economy. The investment has shown encouraging results. Biomedical Sciences output was S\$18 billion in 2005, representing some 5% of our GDP, with over 10,000 people employed in the industry. We have also been able to attract significant investments into Singapore and attracted global talent for the industry. Over 50 companies employing more than 800 research scientists and engineers in drug discovery and product development are currently operating in Singapore.

In the next phase of Singapore's economic development, we need to transform our economy, to focus not only on cost-effectiveness and efficiency, but also on innovation, knowledge creation and knowledge exploitation. Singapore needs to invest significant resources in Research and Development (R&D) to use R&D as a key driver for economic growth and to build the foundation for our long-term competitiveness.

Research organisations such as our universities, polytechnics, research institutes and hospitals have key roles to play in this next phase of Singapore's economic development. Their mission needs to be expanded to include the building up of R&D capabilities, talent and infrastructure to make Singapore a vibrant R&D hub. Our universities such as NUS need to grow their research activity and become magnets to nurture and train our local talent as well as attract and root R&D talent from all over the world.

To build up a thriving R&D landscape in Singapore, we need to invest in and build up:

- (i) Infrastructure Capital;
- (ii) Intellectual Capital, and
- (iii) Human Capital

World-class research infrastructure as a key R&D building block

Infrastructure Capital comprises the buildings, equipment and physical facilities in which R&D takes place. World-class infrastructure is critical to provide conducive homes to nucleate and nurture R&D activities. The development of the Biopolis at One-North has given a strong boost to the growth of Biomedical Sciences. In the short span of five years, Biopolis has built and is operating nine buildings, providing 220,000 square metres of research space that can house up to 2,500 researchers. Within NUS, the Centre for Life Sciences building with 20,000 square metres of laboratory space, is now ready to house 450 researchers drawn from multiple NUS Faculties and working on cutting-edge inter-disciplinary projects.

Initiatives to boost intellectual capital creation in Singapore

Intellectual Capital encompasses the actual R&D activities that are carried out in research organisations. This is the area where our universities such as NUS will need to play a more pivotal role. In the past, our universities focused primarily on manpower development. Now, they must take on the additional role of knowledge creation to support our economic development. The Ministry of Education (MOE) has developed a three-pronged approach to support this enlarged mandate. This involves increasing the level of funding for research in the universities, creating new

capacities to house research-active faculty and post-graduate manpower, as well as ensuring a balanced allocation of resources for teaching and research in the universities.

The National Research Foundation (NRF), together with MOE, will provide funding to establish Research Centres of Excellence (RCEs) within our universities. RCEs will focus on investigator-led research in areas that are aligned to Singapore's long-term strategic interests. They will build upon the existing research capabilities in our universities to develop peaks of excellence in their areas of research. RCEs will help to raise the international standing of our universities to be on par with the best research-intensive universities in the world.

Attraction of human capital to support Singapore's R&D strategy

The third and most critical aspect of developing our R&D landscape is Human Capital. In order for Singapore to successfully leverage R&D as an economic driver, it is critical that we nurture local talent as well as attract a concentration of foreign talent to sustain the critical mass of research activity into the long term. We have to create opportunities for meaningful research careers and maintain a conducive environment for research talent to be rooted here.

NRF is developing a scheme to give young talented PhDs with post-doctoral experience the opportunity to continue their work in Singapore. The scheme will allow the researchers the freedom to conduct independent research in our universities and research institutes so as to add to the pool of diverse and excellent research talent.

Conclusion

Investment in R&D is a long-term commitment. We need to increase the pace of building up infrastructure, intellectual and human capital for Singapore to reap the fruits of our investment. The upcoming 2nd Research, Innovation and Enterprise Council (RIEC) meeting to be held from 15 to 16 March will focus on how Singapore can build up world-class academic research capabilities as part of our effort to bring Singapore's economy to the next level.

Let me end by congratulating NUS on the opening of its Centre for Life Sciences building. This historic event will be an important step in Singapore's strategy to grow R&D as an economic driver for our country.

Thank you.

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