

NATIONAL RESEARCH FOUNDATION

Media Release

3 January 2006

NATIONAL RESEARCH FOUNDATION SET UP TO PROVIDE NATIONAL FRAMEWORK FOR STRATEGIC R&D EFFORTS

- *In addition to Biomedical Sciences, NRF Board has endorsed the following two areas to focus on – Environmental and Water Technologies; and Interactive and Digital Media*
- *NRF aims to double jobs and triple value-added in the three areas – Biomedical Sciences; Environmental and Water Technologies; and Interactive and Digital Media – by 2015*

1. The National Research Foundation (NRF) was set up as a department in the Prime Minister's Office (PMO) on 1 January 2006 to coordinate the research activities of different agencies within the larger national framework and to fund strategic R&D initiatives that would generate economic benefits for Singapore. The Government has approved initial funding of S\$5 billion to enable the NRF to undertake its work between 2006 and 2010. Concurrent with his appointments as Chairman, Singapore Economic Development Board (EDB) and Second Permanent Secretary (Finance), Mr Teo Ming Kian has been appointed Permanent Secretary (National R&D) in PMO.
2. The NRF held its first Board meeting today. In addition to Biomedical Sciences, NRF Board members representing the public and private sectors endorsed the following two areas for focused attention and development:
 - Environmental and Water Technologies; and
 - Interactive and Digital Media.

3. These two areas are poised for rapid growth in Asia and the world¹. Their potential can be enhanced significantly through R&D. Singapore offers excellent conditions for undertaking such R&D because of our technological capabilities, understanding of regional markets and unique strategic and cultural factors.
4. In Environmental and Water Technologies, spurred by the need to diversify our water resources, we have successfully used innovative membrane technologies to produce clean water from both wastewater reclamation and seawater desalination. Our expertise has been exported to China and the Middle East by R&D-intensive enterprises such as Hyflux, and attracted world-class centres of competence of the likes of Siemens to Singapore. Similarly, to sustain a high quality liveable environment, we have developed significant capabilities in waste management, pollution control infrastructure and city beautification.
5. In Interactive and Digital Media, strong capabilities have been developed under the Singapore Media 21 strategy and our thrust to position Singapore as a trusted digital exchange, in areas such as digital cinema. Our universities and polytechnics have dedicated significant resources to building capacity in this area. Foreign specialised institutions have also announced their plans to set up campuses in Singapore. Lucasfilm of the US and Koei of Japan recently set up their first studios outside their home countries in Singapore to create new styles of animation, positioning Singapore as a cultural interface between East and West. Local companies have also built up capabilities in content development for digital animation and computer games.
6. The NRF Board has appointed Steering Committees to focus on each of these two areas, in addition to the existing Steering Committee on Life Sciences² overseeing the Biomedical Sciences initiative. Each of the two new Steering Committees will comprise key Ministers and be supported by a multi-agency

¹ Environmental and Water Technologies are expected to see 10-12% annual growth rates in Asia. Games and animation are expected to grow at double-digit rates worldwide annually.

² The Steering Committee on Life Sciences (SCLS) replaces the Life Sciences Ministerial Committee (LSMC). Its ministerial members remain unchanged.

Executive Committee. Such a structure proved useful for the coordination of initiatives to accelerate the growth of the research-intensive Biomedical Sciences industry.

7. The three areas – Biomedical Sciences; Environmental and Water Technologies; and Interactive and Digital Media – provide at present an estimated 40,000 jobs with value added (VA)³ of S\$8.9 billion. With focused attention and strong inter-agency coordination, NRF is targeting for the three areas to increase their total number of jobs to 80,000 with VA of S\$27 billion a year by 2015. This would double the current number of jobs and triple the current VA in these three areas.
8. Board members affirmed Singapore’s significant strengths in the electronics, chemicals and engineering clusters, which have achieved global leadership positions, for instance, in hard disk drives, methyl methacrylate⁴ and offshore oil rigs. NRF will continue to strengthen these areas through more R&D, to further enhance Singapore’s manufacturing leadership in these clusters.
9. The terms of reference and list of Board members of the NRF are in Annex A, while the composition of the Steering Committees and Executive Committees for the Environmental and Water Technologies, and Interactive and Digital Media sectors are in Annex B.

For media enquiries, please contact:

Mr Lim Seng Jin
for National Research Foundation
Tel: +65 6832-6868
Fax: +65 6832-6498
Mobile: +65 9681-1395
E-mail: NRF_Media@nrf.gov.sg

³ The VA is a direct component of Singapore’s total GDP.

⁴ Methyl methacrylate (MMA) monomer and polymer are used to make products such as artificial marble and LCDs.

Terms of Reference of the National Research Foundation

1. The National Research Foundation (NRF) was established on 1 January 2006 as a department under the Prime Minister's Office (PMO).

2. The terms of reference of the NRF are:
 - a. To provide Secretariat support to the Research, Innovation and Enterprise Council (RIEC), chaired by the Prime Minister;
 - b. To coordinate the research of different agencies within the larger national framework in order to provide a coherent strategic overview and direction;
 - c. To develop policies and plans to implement the following five strategic thrusts for the national R&D agenda:
 - (1) To intensify national R&D spending to achieve 3% of GDP by 2010;
 - (2) To identify and invest in strategic areas of R&D;
 - (3) To fund a balance of basic and applied research within strategic areas;
 - (4) To provide resources and support to encourage private sector R&D;
and
 - (5) To strengthen linkages between public and private sector R&D.
 - d. To implement national research, innovation and enterprise strategies approved by the RIEC, and to allocate funding to programmes that meet the NRF strategic objectives.

3. The NRF will be answerable to the Prime Minister and will be governed by a Board appointed by the Prime Minister for three-year terms (beginning with 1 January 2006 to 31 December 2008).

Composition of the NRF Board

Appointment	Name
Chairman	Dr Tony Tan
Deputy Chairmen	Lim Hng Kiang <i>Minister for Trade & Industry</i> Tharman Shanmugaratnam <i>Minister for Education</i>
Members	Dr Vivian Balakrishnan <i>Minister for Community Development, Youth & Sports</i> <i>Second Minister for Trade & Industry</i>
	Gan Kim Yong <i>Minister of State for Education</i>
	Teo Ming Kian <i>Permanent Secretary (National R&D), PMO</i> <i>Chairman, Singapore Economic Development Board (EDB)</i> <i>Second Permanent Secretary (Finance)</i>
	Peter Ong <i>Permanent Secretary (Trade & Industry)</i>
	LG (NS) Lim Chuan Poh <i>Permanent Secretary (Education)</i> <i>Chairman, Ministry of Education Academic Research Committee (covering)</i>
	Dr Tan Kim Siew <i>Permanent Secretary (Defence Development)</i> <i>Chairman, Defence, Science & Technology Agency</i>
	Ms Yong Ying-I <i>Permanent Secretary (Health)</i>
	Philip Yeo <i>Chairman, Agency for Science, Technology & Research (A*STAR)</i> <i>Co-Chairman, EDB for Biomedical Sciences</i>
	<u>Eight representatives from the educational, health and private sectors</u> Prof Satkunanantham Kandiah <i>Director of Medical Services, Ministry of Health</i> Prof Shih Choon Fong <i>President, National University of Singapore (NUS)</i> Prof Su Guaning <i>President, Nanyang Technological University (NTU)</i> Prof Howard Hunter <i>President, Singapore Management University</i> Prof Greg Whittred <i>President, University of New South Wales, Asia</i>

	<p>Say Kwee Teck <i>Vice-President, Engineering R&D, Seagate Technologies</i></p> <p>Ulf Schneider <i>Vice-President, Development Centre, Infineon Technologies Asia Pacific</i></p> <p>Patrick Plante <i>CEO, Thales Technology Centre Singapore</i></p>
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Environmental and Water Technologies
Steering Committee and Executive Committee (EXCO)

Steering Committee Members	<p>Dr Tony Tan, Chair <i>Chairman, NRF</i> Mah Bow Tan <i>Minister for National Development</i> Dr Yaacob Ibrahim <i>Minister for the Environment and Water Resources</i> Dr Vivian Balakrishnan <i>Minister for Community Development, Youth & Sports</i> <i>Second Minister for Trade & Industry</i></p>
EXCO Members	<p>Peter Ong, Co-Chairman <i>Permanent Secretary (Trade & Industry)</i> Tan Yong Soon, Co-Chairman <i>Permanent Secretary (Environment and Water Resources)</i> Tan Tee How <i>Permanent Secretary (National Development)</i> Tan Gee Paw <i>Chairman, Public Utilities Board</i> Ko Kheng Hwa <i>Managing Director, EDB</i> Khoo Chin Hean <i>CEO, Energy Market Authority</i> RAdm (NS) Lui Tuck Yew <i>CEO, Housing & Development Board</i> Chong Lit Cheong <i>CEO, Jurong Town Corporation</i> Lee Yuen Hee <i>CEO, National Environment Agency</i> Khoo Teng Chye <i>Chief Executive, Public Utilities Board</i> Prof Lui Pao Chuen <i>Chief Defence Scientist, Ministry of Defence</i> Dr Chong Tow Chong <i>Executive Director, Science & Engineering Research Council (SERC), A*STAR</i> Prof Seeram Ramakrishna <i>Dean, Faculty of Engineering, NUS</i> Prof Pan Tso Chien <i>Dean of School of Civil and Environmental Engineering, NTU</i> Chia Mia Chiang <i>Principal, Ngee Ann Polytechnic</i></p>

**Interactive and Digital Media
Steering Committee and EXCO**

<p>Steering Committee Members</p>	<p>Dr Tony Tan, Chair <i>Chairman, NRF</i> Dr Lee Boon Yang <i>Minister for Information, Communication and the Arts</i> Dr Vivian Balakrishnan <i>Minister for Community Development, Youth & Sports</i> <i>Second Minister for Trade & Industry</i> Gan Kim Yong <i>Minister of State for Education</i></p>
<p>EXCO Members</p>	<p>Dr Tan Chin Nam, Co-Chairman <i>Permanent Secretary (Information, Communications & The Arts)</i> LG (NS) Lim Chuan Poh, Co-Chairman <i>Permanent Secretary (Education)</i> Peter Ong <i>Permanent Secretary (Trade & Industry)</i> Dr Tan Kim Siew <i>Permanent Secretary (Defence Development)</i> Ko Kheng Hwa <i>MD, EDB</i> Chan Yeng Kit <i>CEO, Infocomm Development Authority</i> Dr Christopher Chia <i>CEO, Media Development Authority</i> Dr Chong Tow Chong <i>Executive Director, SERC, A*STAR</i> Lin Cheng Ton <i>Principal & CEO, Nanyang Polytechnic</i> Prof Mohan Kankanhalli <i>Vice-Dean (Research), School of Computing, NUS</i> Prof Isaac Kerlow <i>Dean of School of Art, Design and Media, NTU</i> Prof Robert Ely <i>President and CEO, Laselle-SIA College of the Arts</i> Choo Thiam Siew <i>President, Nanyang Academy of Fine Arts</i></p>