

PRESS RELEASE

10 January 2008
In Tel Aviv, Israel

SINGAPORE TO DEVELOP A NATIONAL INNOVATION AND ENTERPRISE FRAMEWORK FOR THE NEXT STAGE OF ECONOMIC GROWTH

- *High-level delegation led by National Research Foundation Chairman, Dr Tony Tan, visiting Israel's leading research institutions and entrepreneurial organisations, gets first-hand view of the mechanisms and systems that support and encourage the diffusion of research results into the marketplace*
- *This trip validates NRF's objective in developing a national innovation and enterprise framework in Singapore that encourages use-inspired research and academic entrepreneurship and provides mechanisms and incentives for the translation of research results into commercial use*

Dr Tony Tan, Chairman of the National Research Foundation (NRF), announced today that the NRF is putting together a comprehensive set of programmes and initiatives to promote innovation and enterprise, particularly in the universities and polytechnics to strengthen their contribution to industry and the economy. This will be discussed at the 3rd Research, Innovation and Enterprise Council (RIEC) meeting, chaired by the Prime Minister, to be held at the end of March this year.

2 Dr Tan made this announcement at the end of a four-day visit to Israel with a delegation which comprised senior officials from NRF, the Ministries of Education, Trade and Industry, Finance and the institutes of higher learning (IHLs).

3 During the trip, the NRF-led delegation visited two leading universities – the Technion – Israel Institute of Technology in Haifa and the Hebrew University of Jerusalem. Visits were also made to the corporate R&D labs of Hewlett-Packard, Intel and IBM in Haifa, as well as the Technion Incubator (an organisation that nurtures start-up companies) affiliated to Technion. In addition, the delegation met with the Office of the Chief Scientist and had interaction with Israeli entrepreneurs and the venture capital community.

4 The Singapore delegation was impressed by Israel's high-tech entrepreneurial ecosystem and the strong culture of innovation and enterprise. Like renowned US universities such as MIT, Stanford and Berkeley, top Israeli universities like Technion and Hebrew University are embracing entrepreneurship as part of their mission, integrated with teaching and research.

Key insights gained from the visit

5 The Israeli universities have a close relationship with industry. The delegation learnt that technology transfer offices in the universities helped to facilitate innovation and enterprise, by enabling research results to be commercialised. Technion has an incubator which gives young start-ups a chance to be nurtured by experienced entrepreneurs until they are ready to seek venture capital funding. The Israeli government acts as a catalyst and shares the risk with the incubators by providing funding for the high risk incubation process. In the early 1990s, the Office of the Chief Scientist also ensured that start-up companies have a fair chance of receiving venture capital funding at its early stage of growth. This was done by creating a number of early stage venture funds to invest in Israeli start-ups. In addition to providing this much needed source of funding, this program ultimately resulted in the development of a healthy venture capital industry in Israel. Israel's venture capital funds, unlike those in other countries invest substantially in early stage Israeli start-ups and is now a US\$1.4b industry. The government also encourages pre-competitive consortium research and the commercialisation of university technologies through funding programmes such as MAGNET and MAGNETON¹.

6 The delegation was impressed with the high quality of basic research conducted at the two universities, which have won them a number of Nobel prizes. The delegation learnt that the universities' close relationship with industry does not detract from their core role in teaching and research. Instead, it enhances these functions. Interaction with the industry allows the universities to apply their research capabilities to address large research challenges for societal benefit. Universities in Singapore can likewise play this very important role in building up the national innovation and enterprise eco-system by encouraging academic entrepreneurship, and enabling the fruits of research to flow from the lab to the marketplace.

7 Research and development labs belonging to multi-national corporations such as Hewlett-Packard, IBM and Intel have made Haifa their base for operations. Locating their labs in Haifa, a knowledge hub, gives these corporate labs two main advantages – talent recruitment and knowledge exchange. Technion provides a continuing stream of high quality graduates for R&D positions to these labs, often through references from faculty familiar with the lab's requirements. Students are commonly employed in part-time positions at these labs before they even graduate. In addition, many senior researchers at these corporate labs teach as adjunct professors at the Technion, thus providing many interfaces for knowledge exchange with faculty.

8 Technion thus serves as a powerful magnet, drawing in top multi-national corporations to locate their highest level activity (that of research and development) in Israel. Substantial economic benefits accrue to Haifa and Israel as a result of the presence of these research labs. This illustrates the high value that strong research universities bring to a country.

¹ <http://www.israel-industry-trade.gov.il/NR/rdonlyres/CD3AF19B-2619-415B-B2F4-B747101C5202/0/TheIntellectualCapital3550.pdf>

Conclusion

9 Dr Tan noted that Singapore and Israel are similar in several ways. Both are small, highly-competitive countries that depend solely on their human resources for economic development. Israel has a well-developed innovation eco-system that encourages and reinforces the creation of high-tech start-up companies, many of which grow into successful multi-million enterprises in a very short time. Cutting-edge research is carried out in the labs with an expectation that results would flow out into useful applications or products through start-up companies.

10 Summing up his visit, Dr Tan said: “In a robust economy, there is a healthy mix of large corporations and small, nimble entrepreneurial start-ups. Large multi-national companies and sizeable local companies are prominent in Singapore’s economy. In the next stage of our economic development, we need to build up sufficient numbers of high-growth companies leveraging on technology and knowledge that will provide an additional engine of growth. Having built up a strong foundation for research in Singapore, we must now move the value chain into the next phase of strengthening innovation and enterprise.”

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