

For information  
On 10 February 2003

**LegCo Panel on Commerce and Industry**  
**Review of the Role and Future of the Applied Research Fund**

**Introduction**

This paper presents the findings of a review on the role and future of the Applied Research Fund (ARF).

**Background**

2 The ARF is a government owned venture capital (VC) fund of \$750 million set up in 1993 to provide funding support to technology ventures and research and development projects that have commercial potential. The longer-term aim is to increase the technology capability and to enhance the competitiveness of local industry, thereby promoting high value added economic development in Hong Kong. The ARF is controlled and administered by the Applied Research Council (ARC), a company wholly owned by the Government and formed specifically for this role.

3 Members were informed of the results of a review on ARF back in January 1998. The then review concluded that the ARF had filled a gap in providing a readily available source of finance for technology start-ups and technology development. The review recommended, among other things, that the ARF should be maintained and that full-time professionals who had the experience and expertise in similar technology-related investments should be engaged<sup>1</sup>.

4 As the ARC started to engage private sector venture capital firms to be the ARF's fund managers in November 1998, the investments of the ARC fall into two categories: those which were processed by the then Industry Department (ID) and funded before the appointment of private

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<sup>1</sup> Paper of the Panel on Trade and Industry of the Provisional Legislative Council Paper [serial no. CB(1)756(04)] on "Review of the Applied Research & Development Scheme and Co-operative Applied Research & Development Scheme : Findings and Recommendations" submitted for the meeting on 12 January 1998.

sector fund managers ("pre-VC cases"), and those which were identified by fund managers and funded after the appointment of fund managers ("post-VC cases").

5 Members have been informed on a quarterly basis of the updated financial position of ARF since December 2000. At the Panel meeting in March 2002, Members discussed the subject and asked the Administration to review the role and future of ARF. This paper follows up Members' request. The present review of the ARF focuses on the operation and performance of the fund since the engagement of fund managers, the technology business and investment environment and the role and future of the ARF.

## **Review**

### **(A) Funding Position**

6 As at 31 December 2002, ARF funded 21 post-VC cases with \$346 million.

7 Among these 21 cases, the ARF has exited from five cases. The exits took the form of these five companies being liquidated or sold on nominal value.

8 Of the other 16 companies invested by fund managers on behalf of ARC, one has been listed on the Growth Enterprise Market (GEM) since May 2002. Another one was acquired by a company listed in the Hong Kong Stock Exchange (HKSE). The valuation of all the 21 investee companies was \$231 million, representing 67% of the invested amount of \$346 million. At Annex is a list summarising all the post-VC cases.

### **(B) Operation of ARF**

9 The engagement of private sector fund managers has started since November 1998. The main reason for engaging these professionals is that they possess much better institutional capabilities than civil servants to handle the day-to-day management and operation of

the ARF, including identification and analysis of technology ventures or R&D projects for investment, liaison and negotiation with investee companies, participation in the management of the funded projects and taking appropriate measures to realise the investments and returns.

10 The ARC has continued to maintain a supervisory role and oversee the performance of the fund managers. The fund managers report regularly to the Council its business conditions and the progress of funded ventures. This would allow the ARF be run in a commercial manner but at the same time take into account its public mission and objectives.

11 Experience in the past few years has proved that the engagement of fund managers has enabled ARF to attract more interest and investment than before when it was operated by civil servants. There were only 27 funded cases, with funding support of \$97 million, over a period of six years under pre-VC arrangements, whereas there were 17 cases, with approved funding support of \$311 million within the first two years under the post-VC arrangements. We therefore consider that the engagement of fund managers has been able to benefit more technology ventures in contributing towards ARF's public mission.

### (C) Overall Performance of Funded Ventures

12 The burst of the dot.com bubble in early 2000 has taken toll on some ARF-funded ventures. Some investee companies were confronted with different degree of financial difficulties. Five were either folded up or sold nominally. As mentioned in paragraph 8 above, the valuation of all the 21 investee companies stood at 67% of the total investments at cost. The main reason for the below cost valuation is that the general investment climate for technology business has been unfavourable and the ARC's fund managers have continued to be prudent in the valuation in view of the financial difficulties confronting some investee companies.

13 Despite these difficulties, some of the investee companies were able to weather the storm. One has been listed in GEM since May 2002. Another one has been acquired by a HKSE-listed company in February 2000. Four has won prestigious technology awards either locally or

oversea<sup>2</sup>. 12 of the investee companies were small-and-medium-sized enterprises (SMEs) with less than 50 employees at the time of first investment and three are now beyond this employment level.

14 Furthermore, these 16 still active post-VC investee companies attracted investments amounting to about \$870 million other than from ARF. This represents a multiplier factor of roughly 3.2 against the corresponding approved investment from the ARC.

15 Seen from the above perspective, we consider that the engagement of fund managers to manage and operate ARF is a major improvement than its pre-VC modus operandi. The fund managers as a whole have been able to support the investee companies for technology and business development, providing the necessary networks and coaching, while a number of investee companies did fail under financial austerity or adverse market conditions. While the business and investment climate has been very difficult in the past two years or so, the ARF does represent a useful public policy tool which worthwhile technology ventures may turn to for investments and support.

#### (D) Role of ARF

16 As mentioned in paragraph 3 above, ARF has filled a gap and is a useful public policy tool in providing a readily available source of finance to support technology ventures and technology development. We consider that the ARF is part and parcel of our integral public programme support, apart from other support to encourage the development of generic, platform technology, to encourage university-industry collaboration in applied research and development, technopreneurship and support for provision of infrastructure and manpower training. The ultimate aim is to enhance the competitiveness of Hong Kong through technological development and upgrading. The ARF is part of the total package essential to the development and spawning of technology ventures and can leverage on private sector expertise under the existing modus operandi. The ARF has a continuous

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<sup>2</sup> Example includes one company being the first ever non-US company winning the Incubator Graduate of the Year in the technology category by the National Business Incubation Association in the U.S. in 2000. Other investee companies won Hong Kong Awards for Industry for Technological Achievement.

role to play in furthering and supporting innovation and technology development in Hong Kong.

### (E) Operational Outlook

17 Currently, there are three fund managers operating ARF. As at the end of December 2002, the ARF had a cash balance of about \$458 million, with \$330 million already entrusted to fund managers and was still subject to new or follow-on investments by ARC's fund managers. Therefore, the amount not yet entrusted to fund managers is about \$128 million.

18 The Board of Directors of the ARC is conscious of its public duty to maintain the right balance between commercial prudence and risk taking in discharging the ARF's public mission. It has been keeping the operation of the ARF under close review on an on-going basis. Various options are being explored with a view to enhancing the effectiveness of the Fund. In the light of the current business and investment environment for technology based ventures, the ARC is of the view that there should not be major changes to the present modus operandi nor should the uncommitted funds be aggressively deployed at this stage. However, it will continue to consider and explore potential opportunities and possible ways to improve the ARF's fulfillment of its public mission, albeit in the current difficult investment climate.

### ADVICE SOUGHT

19 Members are invited to note the contents of this paper on the review of the role and future of ARF.

**Commerce, Industry and Technology Bureau**  
**January 2003**

**List of Investments Supported by the Applied Research Council  
after the Engagement of Fund Managers in November 1998**

**(Position as at end December 2002)**

**Information Technology**

<b>Investee Company</b>	<b>Fund Manager</b>	<b>Technology Area</b>	<b>Funding Approved (HK\$m)</b>	<b>Latest Position</b>
ecVision Ltd.	Walden Technology Management (HK) Ltd.	Business-to-business e-commerce software and services	27.24	Active
LECCO Technology Ltd.	Walden Technology Management (HK) Ltd.	Software tools	24.59	Active
Wisers Information Ltd.	Walden Technology Management (HK) Ltd.	Electronic aggregation and distribution of Chinese language-based content	24.55	Active
InfoTalk Corporation Ltd.	Walden Technology Management (HK) Ltd.	Automatic speech recognition	24.15	Active
ActionAce.com (HK) Ltd.*	AsiaTech Ventures Limited	E-commerce, serving niche toy market	23.78	Sold at nominal value

<b>Investee Company</b>	<b>Fund Manager</b>	<b>Technology Area</b>	<b>Funding Approved (HK\$m)</b>	<b>Latest Position</b>
WebPro Ltd.	Walden Technology Management (HK) Ltd.	Internet and e-commerce technologies for the Asian electronics components industry (internet & e-commerce)	15.60	Active
iASPEC Technologies Inc. (formerly Uni-tech Systems Engineering Ltd.)*	AsiaTech Ventures Limited	System integration, application hosting services	15.55	Active
I-Quest Corporation (HK) Limited*	AsiaTech Ventures Limited	Highspeed internet access for the hospitality industry, portal developer	15.51	In liquidation
Property Market Intelligence Ltd.*	AsiaTech Ventures Limited	Provision of online real estate information and analysis	12.31	In liquidation
i-Security Solutions Ltd.	Walden Technology Management (HK) Ltd.	To develop and market encryption and authentication tools to facilitate e-commerce functions	10.82	Active
QuotePower Information Ltd.*	AsiaTech Ventures Limited	Provision of online financial information and real-time electronic trading	8.00	Acquired by a publicly listed company
Inlooktech.com Ltd.*	AsiaTech Ventures Limited	Enterprise resource planning solutions	7.79	In liquidation
Spike Limited	Softech Investment Management Co. Ltd.	To provide web-related services and solutions	0.68	In liquidation

<b>Investee Company</b>	<b>Fund Manager</b>	<b>Technology Area</b>	<b>Funding Approved (HK\$m)</b>	<b>Latest Position</b>
Emsoft Limited	Softech Investment Management Co. Ltd.	To develop software applications and operating systems for embedded devices based on the Linux platform	7.8	Active

**Sub-total      218.37**



**Telecommunications**

<b>Investee Company</b>	<b>Fund Manager</b>	<b>Technology Area</b>	<b>Funding Approved (HK\$m)</b>	<b>Latest Position</b>
Wafer Systems Limited	HSBC Private Equity Technology (Asia) Ltd.	Network integration	46.70 <sup>3</sup>	Listed on GEM
Continuous Technologies International Ltd.*	AsiaTech Ventures Limited	Computer telephony applications	18.14	Active
Entone Technologies Inc.	Softech Investment Management Co. Ltd.	Broadband video streaming	15.60	Active
Unitech Networks Ltd.	Walden Technology Management (HK) Ltd.	Internet/Intranet system integrator	11.63	Active
CommVerge Solutions Ltd.	Walden Technology Management (HK) Ltd.	Telecom system integration	7.80	Active

**Sub-total      99.87**

<sup>3</sup> The net investment is HK\$35.08 million as HK\$11.625 million was recouped in December 1999 through redemption of Note.

**Electronics**

<b>Investee Company</b>	<b>Fund Manager</b>	<b>Technology Area</b>	<b>Funding Approved (HK\$m)</b>	<b>Latest Position</b>
NSM Holdings Ltd.*	AsiaTech Ventures Limited	Original design manufacturer of telecom equipment	15.58	Active

**Sub-total      15.58**

**Biotechnology**

<b>Investee Company</b>	<b>Fund Manager</b>	<b>Technology Area</b>	<b>Funding Approved (HK\$m)</b>	<b>Latest Position</b>
Plasmagene Biosciences Limited	Softech Investment Management Co. Ltd.	To research and develop non-invasive techniques for detection of prenatal and cancerous diseases based on proprietary and licensed technologies	11.70	Active

**Sub-total      11.70**

**Total          345.52**

\* Investments made by previous fund manager, AsiaTech Ventures Limited, on behalf of the ARC. The investments have been under the custody of the ARC, instead of AsiaTech Venture Limited, since May 2002 at the time of which four were active and had remained so as at end December 2002.

**END**