Evaluation of the NZTE Incubator Support Programme

Part 1

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Ministry of Business, Innovation & Employment

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Contents

Evaluation of the Incubator Support Programme

This evaluation was undertaken to investigate how well the programme is meeting current government objectives and what current evidence suggests about future value. Two lines of investigation were followed:

- what performance measures can tell us about the programme and
- how incubator models vary.

NZTE have provided us with information and firm performance data reported by incubators. We carried out in-depth interviews with the incubators and shorter interviews with other stakeholders. This evaluation reports on our findings to date.

Further work is being undertaken in the Statistics New Zealand's Integrated Data Infrastructure to provide more information about:

- high-growth firms in New Zealand
- incubated firms in New Zealand
- econometric analysis of additionality of the Incubator Support Programme.

This will be reported as Part B of the evaluation in December 2012.

Ministry of Business, Innovation and Employment

The Ministry of Economic Development, Ministry of Science and Innovation, The Department of Labour and the Department of Building and Housing were formed into the Ministry of Business, Innovation and Employment in July 2012. This report, prepared in June, has used the previous titles.

Executive Summary

Key points

1. **Business incubators aim to stimulate entrepreneurship, innovation and business growth.**

   Throughout the world they are seen as useful for stimulating entrepreneurship and encouraging formation of businesses with high-growth potential. Some incubators focus on research institutions with the aim of generating economic value from research and development, R&D, and one of the most successful incubators in New Zealand operates in this market.

2. **New Zealand incubators each operate from their own model and network to provide similar sets of core services for business formation and growth.**

   Universities are in some places doing similar work, although it is generally focussed on generating value from intellectual property from research than on entrepreneurship.

   NZ incubators have a ten year or more history, although some are new. They have mixed ownership (councils, universities and private) and diverse sources of revenue. In addition, there is a wide range of incubator activity by other organisations including university commercialisation offices and some private groups.

3. **Most incubators are achieving best international practise. The 330 businesses that have graduated have generated $251m revenue, $163m exports and created 1746 jobs.**

   Most business incubators in New Zealand are shown by this evaluation to be following best international practise, including responding to local needs. This concurs with conclusions from other reviews that there is a diversity of incubator models in New Zealand that are addressing their niche and working satisfactorily. A minority of incubators are shown as under-performing, reflecting aspects of the particular model and challenges in generating deal-flow and establishing effective leadership for these particular situations.

4. **Graduates include some high-growth potential businesses; an important measure of incubator success.**

   Incubators in the programme are well positioned to support high-growth-potential business, an important objective of government. Incubators are working effectively to stimulate high-growth-potential business through their selection, support and graduation processes. The powerHouse has been outstanding in this and others can learn from them. There is also opportunity to enhance outcomes from other government support for early stage business growth ('seed commercialisation'). About 50 businesses, half the graduates 2009-11, met the NZTE high-growth criteria and are generating revenue. Further work is underway to examine this performance and clarify the high-growth definition.

5. **New Zealand incubators depend on government support. This enables them to operate at the risky side of the business where the potential rewards for New Zealand are greatest.**

   In 2011/12 government support to business incubators was $4.4 million in funding to eight incubators, plus $0.4m for NZTE's Incubator Development Unit (IDU) and $0.1m miscellaneous grants.

   The government also supports incubated firms through the Seed Co-investment Fund and R&D grants to businesses.

6. **We are measuring the net value from incubators for business growth, using robust statistical techniques and data and we will report results by December.**

   Effectiveness needs to be determined by additionality- the extent to which incubated business performance is superior to what would occur without incubator support.

7. **We recommend three year funding of the programme, focussing on graduating high-growth-potential businesses, and ceasing funding of incubators that are unable to deliver such results.**

   Government should continue its support of incubators but with the expectation that the IDU should show measurable value from its monitoring and developmental activity. Three year funding is needed to incentivise the quality of incubator capabilities required to support entrepreneurs and business formation with high-growth potential.

Incubator Support Programme Policy

The incubator support programme seeks to enhance the survival and growth of early-stage, high-growth businesses via the development of high-quality incubators. It currently contributes to eight incubators.

High-growth business may have 'born global' aspirations, as the domestic market is generally too small to sustain high growth, particularly in areas of new technology.

Entrepreneurial growth in New Zealand is constrained by the structure and size of our economy and distance from major markets. Because of these factors, support to early stage businesses with high-growth-potential is needed. While, in principle, incubators could be self-sustainable, in order to do so they would have to work in less risky areas, thus diluting the desired effect. Government intervention can enhance the incubator's focus to the risky early-stage development of high-growth start-ups – an area where commercial operators are absent.

Main findings

Businesses in incubation

The number of businesses in incubation has increased, following a significant decrease in 2008, see table below.

Incubator	Location	Year				
		2007	2008	2009	2010	2011
AUT	Auckland	7	4	8	9	6
BCC	Palmerston North	9	11	11	13	13
Creative HQ	Wellington	19	14	21	23	28
E-Centre	Auckland	14	14	14	16	16
Icehouse	Auckland	25	28	30	37	71
powerHouse	Christchurch	17	10	9	11	9
SODA	Hamilton	0	0	2	5	6
Upstart	Dunedin	25	21	16	23	21
Total		**116**	**102**	**111**	**137**	**170**

Source: Incubator firm performance data – NZTE, August 2012.

* The SODA incubator was formed in 2009.

Incubators have had a number of potential high-growth graduates. Twenty-two out of a possible 50 businesses exiting incubators in 2010 were identified as potential-high-growth. While the definition of potential-high-growth businesses may be improved, by any definition there is room for increasing the number of potential-high-growth exits.

Managing performance using hard data

Incubators are contracted to provide data on firm performance. NZTE are currently collecting fulltime equivalent employees, annual revenue, export revenue, and capital raised, as firm performance measures. In 2011/12, 69% of businesses (both those in incubation and alumni) reported performance information. For individual incubators this varied from 16% to 95%. Significant improvement in the quantity and quality of firm performance data is required.

Firm performance data should be used to enhance incubator focus on the programme objectives of increasing high-growth start-ups.

Aggregated performance data shows an improvement in total revenue and export revenue over the last five years.

Aggregated Performance Measures	2007	2008	2009	2010	2011
# Incubators Reporting	8	7	7	7	7
Total # Alumni Companies	145	185	216	266	331
# providing performance data	49	71	89	122	156
FTEs employed	596	870	1,212	1,369	1,746
Domestic Revenue ($m)	30.37	55.32	57.28	72.43	87.40
Export Revenue ($m)	21.77	24.29	51.84	89.75	163.64
Total Revenue ($m)	52.14	79.61	109.13	162.18	251.04
Capital Raised ($m)	17.98	18.95	31.05	33.42	21.95

Source: NZTE, August 2012.

Data collected in 2012 also suggest:

- All incubators have a 'bias' to ICT businesses. 'Specialised manufacturing' and 'Creative and services' are the next most common sectors with some sectors such as food production largely absent. The sector spread is increasing with time particularly in the more mature incubators.
- There is some evidence that incubators are improving in the quantity and quality of potential-high-growth exits.

Incubator models

The eight incubators funded by the Incubator Support Programme reflect their geography and the business environment in which they operate. All are not-for-profit organisations. Ownership, through trusts, is spread between universities, local government, and private businesses. Some have all three groups represented and others are wholly owned by a university or, in one case, an economic development agency.

Relationships between the incubators and university commercialisation offices vary greatly. Three university commercialisation offices also incubate potential high-growth companies and this will impact on the incubator business pipeline in those areas.

The relationship between universities, their commercialisation arms, incubators, angel and venture investment firms and groups is indicative of the health of the entrepreneurial environment. In some centres these relationships are working much better than in others.

While each incubator has a unique approach to provision of its services there are two main models:

- **Entrepreneur-led incubators** take in entrepreneurs with a suitable business proposition.
- **IP-based incubators** identify suitable IP and then work to build a business team around the IP.

Icehouse is largely an entrepreneur-led incubator and powerHouse largely an IP-based incubator. All of the incubators have a mixture of these models.

While details of the model can, and will, vary between incubators what is important is the success of the businesses using their services. Do they have the potential to become high-growth? Variation between incubators will reflect the strengths of their local business environments.

Two of the funded incubators, IceHouse and powerHouse, have received international recognition for their incubation practices. The quality of the other incubators is varied. Through annual key performance indicators NZTE has the ability to address some of the poor performance. If performance does not improve then funding should be withdrawn.

All stakeholders spoken to thought that the NZTE Incubator Support Programme assisted potential high-growth start-ups and was valuable to the entrepreneurial environment. Most saw that there was also room for improvement, but the current incubators were a successful base from which to work.

Wider policy issues

The issue of financial self-sustainability was discussed with incubators and other stakeholders. While most held the opinion that financial self-sustainability was possible, it would result in incubators moving to less risky areas of operation. To remain operating in the high-risk, early start-up area continued government intervention is necessary.

The incubators bring together or promote several different policy initiatives. For example, MSI has funded approximately one in three of the firms which have been in the incubators. Of those firms receiving MSI grants approximately half have received grants of less than $50,000.

MSI has also funded three of the NZTE-funded incubators through a variety of contracts with the aim of encouraging focus on commercialisation of research. Care is needed in cross funding between MSI and NZTE to ensure that both organisations are aware of what is happening and that funding does not confuse roles within the sector.

Collaboration between organisations has taken some time to come to fruition, both collaboration between university commercialisation offices and incubators and between university

commercialisation offices themselves and this needs to be encouraged. The balance between collaboration and competition is delicate in a country as small as New Zealand.

Conclusions

The Incubator Support Programme is delivering effective support for funded incubators. The funded incubators offer a range of services to support potentially high-growth firms in New Zealand. Some of the funded incubators are more effective than others. This reflects their capabilities and the regional entrepreneurial environments in which they operate.

NZTE has managed its funding to encourage adoption of best practice for incubation of high-growth businesses.

Incubators are a key component of the New Zealand entrepreneurial environment.

Recommendations

1. The current policy of moving incubators towards self-sustainability is removed in favour of an on-going commitment to fund incubators at up to typically 50% of their operating costs, for three year intervals, with annual reviews. This will enable NZTE to ensure incubator focus remains at the early stage of high-growth firm development. Evaluation at six-year intervals to review this policy is recommended.

2. The Incubator Support Program should return to its three-year funding cycle in 2013.
    - The Incubator Support Programme is delivering effective support for funded incubators. The funded incubators offer a range of services to support potentially high-growth firms in New Zealand. Some of the funded incubators are more effective than others. This reflects their capabilities and the regional entrepreneurial environments in which they operate.
    - NZTE has managed it's funding to encourage adoption of best practice and incubation of high-growth businesses.
    - Incubators are a key component of the New Zealand entrepreneurial environment.

3. A common view of what constitutes a high-growth firm should be developed for New Zealand. This is needed to focus incubators and related initiatives on the leading opportunities as distinct from entrepreneurial ideas. It needs to be acknowledged that ex anti 'high-growth-potential' is tricky to identify. The definition should include quantitative metrics which provide realistic guidelines for New Zealand performance.

4. The study of additionality of the incubator programme being undertaken in the Statistics New Zealand Integrated Data Infrastructure be completed and reported by part 2 of this evaluation. The study would compare the performance of incubated firms with comparable firms, matching across a number of variables such as age, size, sector, growth characteristics.

Operational suggestions

1. Guidelines need to be implemented to recommend:
    - which incubators should receive multi-year funding;

- which incubators should remain on annual funding cycles; and
- how an incubator could transition from one category to the other.

2. We suggest that NZTE reviews its contract arrangements in which all the money is paid annually at the start of the year and contractors (incubators) only partially meet their obligations.

   Performance information required as part of these contracts is indicative of the extent to which the focus is on delivery of key results, as distinct from activities.

3. Metrics for internationalisation need to reflect incubator client business benefits e.g. export revenues, offshore agreements, capital raised offshore.

1. Introduction

The Incubator Development Programme was established by cabinet in April 2001 with the intention of developing and supporting business incubators in New Zealand.

The issues addressed by the programme are:

- A desire to increase the number of high-growth businesses, as they contribute a disproportionate amount to economic growth.
- Start-up businesses with high-growth potential, who are trying to develop unproven technologies face information problems.
- Start-up businesses with high-growth potential also face coordination problems.
- The benefits of assisting disruptive high-growth businesses cannot be fully captured by private organisations (because of the competition effects and other spillovers).

Because the private sector is unlikely to assist start-up businesses with high-growth-potential, government funds incubators to:

- Address information problems, by building the capabilities of businesses and raising their profile in the market
- Link different aspects of the market around start-up businesses together to overcome the coordination difficulties.

Providing these services helps achieve the intermediate outcomes discussed above. Which in turn contribute to the ultimate outcome.

We will use the terms 'businesses' and 'firms' to mean the same thing. The latter term is more commonly used by economists.

Wikipedia states that the "most common" incubator services are:

1. *Help with business basics*
2. *Networking activities*
3. *Marketing assistance*
4. *High-speed Internet access*
5. *Help with accounting/financial management*
6. *Access to bank loans, loan funds and guarantee programs*
7. *Help with presentation skills*
8. *Links to higher education resources*
9. *Links to strategic partners*
10. *Access to angel investors or venture capital*
11. *Comprehensive business training programs*
12. *Advisory boards and mentors*
13. *Management team identification*
14. *Help with business etiquette*
15. *Technology commercialization assistance*
16. *Help with regulatory compliance*
17. *Intellectual property management*

The Evaluation

This report is to communicate the first of a two part evaluation. In this first part qualitative assessment of the Incubator Support Programme has been undertaken. In the second part, to be reported in December 2012, further quantitative analysis based on research in Statistics New Zealand Integrated Data Infrastructure (IDI) reporting on demographics of high-growth businesses in New Zealand, demographics of incubated firms, and analysis of the additionality of the programme for incubated firms will be presented.

The Incubator Support Programme has been evaluated on two previous occasions, in 2004 and in 2008. The main recommendations from the 2008 evaluation are given in Appendix 2. The 2008 evaluation reported comprehensively on prior incubator funding. When the programme was first established more incubators were funded with up to fifteen in 2001/02. These are listed in Appendix 2 of the 2008 report. Many of these earlier incubators have folded and only eight incubators have been funded from 2006/07 until the three-year funding cycle started in 2009/10 when seven incubators were funded. In 2011/12 SODA, a Hamilton based incubator, was added as an eighth.

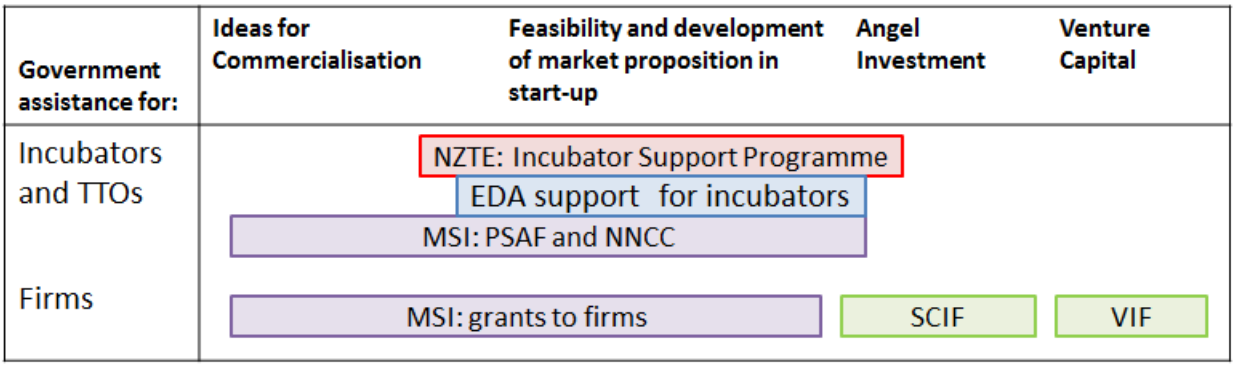
Evaluation scope

The evaluation is designed to assess the efficiency and effectiveness of the Incubator Support Programme including value for money, how well it is meeting current government objectives and what current evidence suggests about future value. The evaluation addresses:

- contribution of the programme to the survival and growth of early-stage businesses;
- influence of the programme on the development of high-quality incubators in New Zealand;
- contribution of the Incubator Support Programme to the portfolio of government support for entrepreneurship and business growth. How does the programme complement the range of support including through: other NZTE services; other MSI services; regional business partners (regional agents for MSI and NZTE services); angel and venture-capital investment, other local business groups, universities and CRIs; and the national network of commercialisation centres;
- the possible future role of government in support for incubator development in New Zealand and the level of that support.

The Incubator support programme is one of a number of government initiatives to support entrepreneurs and organisations which provide services to them. These programs are described in Chapters 7 and 9 and shown schematically, in a simplified linear model, in Figure 1.

Figure 1: Government support for entrepreneurs, start-up businesses, and organisations providing services in this area (incubators and technology transfer offices TTOs).



2. Literature Review

The international literature (academic research articles, government and other reports) on business incubators is prolific. This reflects both the sixty-year history of this policy area and its application in many countries. The following is an analysis of material relevant to this evaluation.

Definition of incubators

Incubators are described as providing a 'nurturing environment' for entrepreneurial start-up businesses. Incubators try to facilitate or stimulate entrepreneurship to produce successful business formation, innovation and growth (Yu et al, 2008). A comparative study of incubator experience in Israel and India suggests that 'successful incubators both emulate market conditions and shield client businesses from them' (Maital et al, 2008). In practice this can mean that entrepreneurs inside an incubator are expected to be business-like but may be supported on non-commercial terms[1]. Entrepreneurs are expected to rapidly achieve good business disciplines such as a robust business plan and initial sales and cash-flow targets. Through this they are challenged, encouraged and often supported by mentors, peers and eventually (in some cases) investors.

Technology orientated incubators

The focus throughout the world on business growth and perceived opportunities for government intervention to stimulate business growth (particularly from the R&D base) has led to substantial interest in what are often described as 'technology orientated' incubators. Hundreds of government-funded incubators operate in Europe and North America. Many are located in science parks. Some of these science park arrangements are simply co-located facilities that would not meet a New Zealand incubator definition.

This international interest in incubators has been attributed by some commentators to their political attractiveness. Incubators can be regarded as a straightforward policy response, with an attractive profile that shows entrepreneurship and innovation in action (Tamásy, 2007). But experience has produced more complex challenges. Tamásy (2007) reports that in Germany, for example, rapid growth in the number of incubators outstripped the supply of the entrepreneurial talent (e.g. technology orientated start-ups). Consequently, clientele had to be attracted from potentially less productive areas of business.

How might incubators address the needs of technologically-focused businesses?

The OECD points out that it is often the start-ups and other new firms that exploit the novel opportunities that have been overlooked by the more established businesses. Businesses differ greatly with respect to their technological dynamic (innovative) capabilities. A few are technological step-change leaders (and innovators) in their area of business while most start-ups are incremental innovators (Andersen & Cantwell, 1999).

Technology-based businesses must choose from multiple strategies for developing the new and improved products that generate growth. It has been suggested that young companies that focus their new products on extensions to a narrow technology are far more successful than those that pursue technical diversity (Roberts & Meyer).

Incubators can make a crucial contribution to assisting entrepreneurs make these early-stage strategic decisions in an informed and well-mentored environment.

[1] It has been suggested that incubators in some countries are insufficiently business-like and are consequently ineffective.

Israel's technological incubator programme

'Established by government in 1991, the programme aims to assist entrepreneurs to successfully develop and market their projects. It takes innovative technological ideas, which are still in their initial stages, and helps transform these ideas into viable start-up companies. The programme also seeks to:

Promote R&D activity in outlying areas;

- Create investment opportunities for the private sector; and
- Assist in transferring technologies from research institutes and implementing them within industry

What is an Israeli incubator?

It is *a private "for profit" legal entity* which offers early stage start-ups a variety of services which enable them to concentrate on the development of their innovative technology.

What does an Incubator offer?

- A functioning work environment (including offices, laboratories and equipment)
- Secretarial and administrative services, accounting and legal advice
- Technological supervision and business guidance
- Assistance in obtaining financial resources needed to carry out the project
- Assistance in raising capital, locating potential partners and investors

How long does the Incubator Programme last?

A project usually spends approximately two years in an Incubator Programme. *The government usually funds 85% of the total budget* for this period, which is reimbursed via royalties from revenues. The remaining 15% is funded by the incubator itself.

In which fields do incubators operate?

Currently there are 26 such incubators. They cover all fields of R&D including Cleantech, Medical Devices, Biotechnology, Pharmaceuticals, and Information & Communication Technology. Some incubators specialize in specific fields of R&D.

What are the acceptance criteria?

The Incubator Programme is aimed at fledgling entrepreneurs. The R&D project proposal needs to be based on an *innovative technological idea* that can be developed into *a product which can potentially be exported.*

What happens during the Incubator Programme?

During the Incubator Programme, the project transforms from an idea into a proven technological process or product with demonstrable market potential. This includes the creation of a prototype or working model along with a business plan. By the end of the two year period, the project aims to be ready for commercial investment or for a strategic partner. At this stage, entrepreneurs are expected to be able to continue on their own, availing themselves of regular channels of support or outside investments.

Results

In the twenty years to 2011, over 1,200 start-up companies have passed through Israeli Incubators'.

Source: http://www.icegrp.org/text.asp?category=23422_23662_&currentpage=1;

Israel has been reported as having produced the second highest absolute number of technological start-up companies per year in the world after the U.S. http://www-sre.wu-wien.ac.at/ersa/ersaconfs/ersa05/papers/388.pdf;

Needs of high-growth early stage businesses

A second driver for government support of incubators is the policy interest in accelerating high-growth businesses (e.g. businesses with turnover growth greater than 20 percent p.a.). Such businesses often make an important contribution to employment growth. In their formative stage they can face particular barriers to growth. These derive from difficulties in financing and the different management skills needed to take a business rapidly through various stages of rapid growth (Nightingale, 2009).

Identifying high-growth potential businesses is problematic. This is because high growth businesses are both very exceptional, a tiny percent of businesses, and very unlikely to sustain these growth rates (OECDa 2010, Storey and Greene, 2010).

The overseas evidence is also weak as to whether there are commonly used business strategies that contribute to high-growth. The common factors that statistical analysis shows as most directly influencing high-growth appear to be factors other than entrepreneurship; i.e. location and business demographics-age and sector, (Greene, 2002). 'Sun-rise' sectors such as IT applications have spawned high-growth start-ups; although most have been short-lived. (Storey and Greene, 2010)

Clearly management capability is also vital. Statistically robust research in New Zealand has, not surprisingly, shown that management practices are an important factor in explaining business productivity growth, as is business form and ownership (Green and Agarwal, 2011).

This causal uncertainty was also highlighted by a recent New Zealand survey (Competenz, 2010).

> *"High growth firms are 16% more likely to make changes to increase productivity than 'high decline' firms, with 18% more likely to have made more than one change in the last two years. 'High decline firms' favour investment in process whereas high growth firms favour investment in people. Ironically, there are more business process improvements in high growth firms, while high-decline firms end up with fewer improvements."*

How do incubators add value?

A central value proposition of incubators is that outsiders can bring invaluable contacts, planning and management skills to entrepreneurs when they are starting a business. Entrepreneurs are highly motivated and committed to putting in whatever time it takes to find the information and skills that they require. But there are market barriers and experience issues in finding what they require.

Some researchers also suggest that suppliers of these services often have an insufficient understanding of the learning needs of small businesses. As mentioned above, high-growth firms tend to have much greater need for finance, information and other factors which may further add to their difficulty in seeking support. (Smallbone and Baldock, 2004). Incubators facilitate and broker these services so that they are used more effectively.

Academics offer a wide variety of views as to which aspects of incubation services make the greatest contribution to incubator performance (Vanderstraeten et al, 2012).

What is the evaluation evidence of incubator effectiveness?

Much of the literature about business incubators simply describes their rationale and the types of services provided. Very few studies have evaluated the effectiveness of incubators (Yu & Nijkamp, 2009). Such evaluation would need to show that incubated businesses had a better survival rate and growth rate than would occur without incubation. The evaluation problem is that the counterfactual experience for incubated firms (i.e. what would occur without incubation) is theoretic and thus non-observable. An additional challenge is that most incubators try to recruit the most promising entrepreneurs. Consequently, their performance cannot be compared to the average start-up business. The authors examined published experience in addressing the counterfactual issue and found that:

- Some studies used rejected applicants to form a comparator group of businesses. They point out that this is not a fair comparison because incubators select for high performance potential. Higher growth of incubated firms may be due (at least in part) to this selection process, rather than from incubated services.
- A more accurate approach would be to use statistical methods to compare the full range of characteristics of participants with a control group. But they do not cite examples of this method and, in addition, they suggest that 'such methods are far too complicated for policy makers and practitioners to comprehend.' Other researchers, such as Cheng and Schaeffer, are convinced that an evaluation investment of this sort is the only sound basis to be conclusive about incubator value-add.

- The common methods used, surveys and benchmarks, fit the political economy of incubators in Europe and the US. Their results "always justify further investment as an effort to improve the performance." (Yu & Nijkamp, 2008).

To test whether incubators add value it is necessary to measure the additional productivity gains of incubated firms and compare this against the costs of incubation. Recent work, both in New Zealand and abroad, shows that a counterfactual can be constructed from a set of comparable performance information for other firms to test for additionality using econometric techniques (Morris and Herrmann, 2012).

Links to universities

Tamásy (2007) examines whether incubator linkages to universities, such as through science parks, enhance performance and cites a number of studies which compared performance of businesses from science parks with other similar businesses. Not surprisingly, science-park firms tend to be more R&D focused. But the evaluations showed very little, if any, difference in business growth performance.

Is there a best-practice model for incubators?

The academic and research literature on this topic suffers from the limited evaluation evidence available and consequently reflects judgment based on experience, rather than hard facts. Tamásy (2007) examined experience in Europe and has also worked in New Zealand. She argues that incubators need, if they have any chance of adding value, to operate as private organisations, without government funding, and preferably for-profit. However, it is hard to find evidence of this being achieved. A recent review of European experience made the following points:

- "The challenge for incubators and their funding bodies is to capture some of the value created for incubatees. Generating revenue from services when clients are resource constrained is often not possible without subsidies from public bodies
- Capturing value through taking equity in clients introduces delays in revenue and causes the incubator to behave more like an equity investor by prioritizing short-term financial returns rather than longer-term performance" (Dee et al, 2011).

Israel's privatized incubators are famous. But an evaluation of them found that 90 percent of their projects were co-funded by government and that these subsidies were proportionately higher than support for public sector incubators. It also found that private incubators operated only in a narrow range of business, mainly bio-tech (Frenkel et al, 2005).

Maital et al (2008) suggested that the models should reflect the local business environment. He argues that success in Israel depended on the ability to recruit the 'right' sort of entrepreneurs: 'Unsuccessful projects failed largely because of the personality and lack of skills of the management team and entrepreneur and their teamwork.' Success in India, he suggests, stemmed from ability to raise finance including covering the costs attracting leading expertise.

But it remains unclear from these reviews whether the incubator models achieved value-for-money i.e. whether the productivity growth of incubated businesses, over what would otherwise have occurred, exceeded the costs.

Size of the potential market for incubators in New Zealand

Statistics NZ publish figures (below) on the numbers of businesses[2] that describe themselves as undertaking innovative activity. They also provide statistics on the rates of firm formation. There are no statistics on

[2] These figures are from the Business Operations Survey and are businesses with six or more FTES.

start-ups in knowledge-intensive areas or other figures that could indicate the potential New Zealand catchment for business incubators. In the absence of other information a very rough approximation of the potential market can be made as follows:

- Consistent with the rates of firm formation in New Zealand, perhaps about five percent of the 2011 innovative small businesses, Table 1, are new/emerging; i.e. 580 businesses. If, say, a quarter of these entrepreneurs were amenable to the incubator environment, the supply-pool would be about 145 businesses p.a. There are currently 118 businesses in NZ incubators.

Table 1: Innovating businesses with international engagement (Statistics NZ estimates).

Business size	Total number of businesses		Innovators		Innovators with international engagement		International engagement type					
							Current overseas income		Produce overseas		Purchase overseas	
			2007	2011	2007	2011	2007	2011	2007	2011	2007	2011
	2007	2011	Percent[1]		Percent[2]							
6–19 employees	26,316	26,337	42	44	47	47	23	22	7	8	37	38
20–49 employees	6,339	5,940	53	51	50	56	29	30	6	9	40	47
50–99 employees	1,758	1,758	60	59	65	64	41	39	10	13	55	53
100+ employees	1,467	1,461	67	62	73	76	46	43	14	17	65	68

[1] Percent of all NZ businesses; [2] Percent of Innovators
Source: Statistics NZ, *Innovation in New Zealand,* 2011.

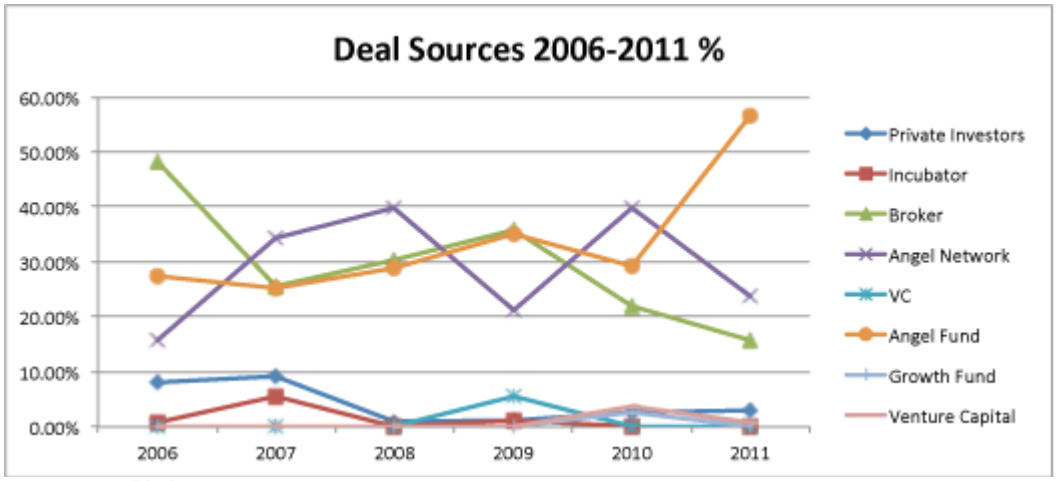
There are some new sources of information that offer insights into the overall position of incubators in the New Zealand business growth landscape. They include information on early stage equity funding that is collected by the New Zealand Venture Investment Fund Ltd. From Figure 2 and Figure 3 it would appear that there is a steady flow of private finance into start-up businesses. Some of these start-up businesses will be *graduates* from incubators and therefore not shown as being sourced through incubators.

The relationship between incubators and early stage capital

Usually private investors consider investment in start-ups at an early stage too risky. However, once a start-up has graduated from the incubator program, it is able to operate independently and is ready to raise funds from the private sector. The New Zealand Venture Investment Fund Ltd[3], NZVIF, collects data on early stage capital finance. The relationship between incubators and angel investment, Figure 3, shows that angel investment is more likely to occur after businesses graduate from incubators. This has not been shown to be a causal relationship. The Angel Funds shown in the graph includes both those co-funded by NZVIF and other funds not supported by the government.

[3] At July 2012, NZVIF had invested approximately $19 million in 77 young companies through the Seed Co-Investment Fund. NZVIF have entered into 14 partnerships with angel groups and the total amount invested in young companies through the Seed Co-Investment fund and angel investment is $110 million.

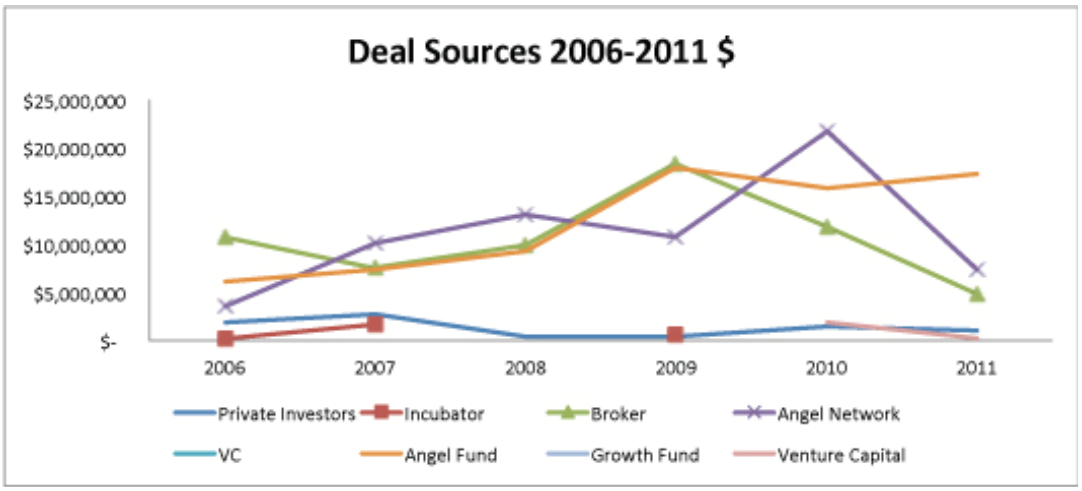
Figure 2: Private equity market deal sources, by % of funds invested.



Source: NZVIF, 2012.

It is particularly notable, Figure 3, how much the source of early stage capital is changing and just how prominent the angel funds have been over the recent recessionary period. The latter are organised entities that have dedicated funds to invest in angel type deals. They are usually just two or three people, investing around $1m – $5m. They have a formal structure and entity dedicated to this activity. An angel network by comparison is a "club" of individuals organised in some way to collectively invest in angel deals (e.g. ICE Angels).

Figure 3: Private equity market deal sources 2006-2011, by funds invested.



Source: NZVIF, 2012.

Raising capital for knowledge intensive New Zealand businesses

The Angel Association of New Zealand recently surveyed its members on their professional development and deal preferences. Their survey polled those running funds and those individuals who are members of formal networks. New Zealand has half a dozen managed funds investing in early stage ventures and approximately 200 angels belonging to networks based in Otago, Christchurch, Nelson, Wellington, the Manawatu, Tauranga and Auckland. A quarter responded and therefore the results are not fully robust.

Sector preferences

Angels have a preference for web based software and services with an average rating of 4.5 out of five, followed closely by technology hardware and equipment (4.0), biotech and life-sciences (3.6), FMCG[4] (3.3), clean tech (3.2) and agriculture (2.6).

Deal size

30% of angels preferred deals involving $250-500k in the first round of funding being sought by a company. About a quarter of respondents preferred deal sizes on either side of this with 25% preferring deal sizes up to $250k and 25% preferring deals between $500k-$1m. 15% said they like to invest less than $15k, and 15% have no preference.

Deal stage

Respondents were evenly split between pre-revenue and post revenue deals in terms of which stage they prefer to invest. Investing in deals still not much more than a concept, with the product and market still needing validation, was the least popular. Investment in later stage ventures was also unpopular.

Pre-revenue – detailed business plan and sales pipeline identified (3.0)

Post-revenue – solid first year of sales (3.2)

Early stage venture –company < 3 years old with proven business model (2.3)

Concept – product and market still need validating (1.7)

Deal source

Where angels did have a preference on deal source, incubators rated 3.4 out of 5, "garage or front room" 2.8, research institutions 2.5, and economic development agencies 1.7. One respondent noted that it was not the source of deals which was relevant but the calibre of the people running the company.

Source: NZ Young Company Finance, *March 2012.*

[4] FMCG are Fast-Moving Consumer Goods.

3. The NZTE incubator support programme

The incubator support programme consists of two components – the incubator development unit which sits within NZTE and the incubator awards.

NZTE operating guidelines define the '*role of the Incubator Development Unit (IDU) as:*

- establish and service an Incubator Network to share learning from both national and international best practice, which can be fed into the ongoing development of New Zealand incubators. The members of the Network will include incubator management, support services, and organisations with an interest in incubators e.g. local government, tertiary institutions, industry groups, Maori and other minority business development organisations;

- identify and support opportunities to promote initiatives related to business incubation, technology transfer and commercialisation in order to develop best practice in business incubation;

- improve incubators' ability to access assistance from existing government programmes;

- administer the Incubator Awards.

The IDU administers the incubator contracts. Table 2 includes costs for the IDU within NZTE.

Table 2: Funding for the incubator development unit within NZTE.

IDU funding (NZ$1,000)	Actual	Actual	Actual	Actual	Actual
	2007/08	2008/09	2009/10	2010/11	2011/12
Personnel	142	145	145	149	151
Travel	10	16	35	35	55
Third Party Providers	40	20	16	9	24
Computing Costs	3	2	1	2	3
Other (incl. review of proposal costs)	60	56	13	31	25
Overheads	147	141	170	154	122
Totals	**402**	**380**	**380**	**380**	**380**

Source: NZTE, note both 'third party providers' and 'other' lines include costs for the assessment panel.

Incubator Awards are merit based and were contested annually until 2008[5] after which a three year funding process with annual assessments and performance checks was implemented. New contracts with incubators were entered in 2009 with funding for three years. This has been rolled over for a fourth year while policy options for the programme are considered.

Table 3 lists the funded incubators and the annual grants they received in the first three-year funding round. Appendix 1 includes a summary of information on each of the funded incubators including a short description of their context, history, and points of difference.

[5] An evaluation in 2008 recommended adoption of a longer funding cycle. See Appendix 2.

Table 3: Programme funding by incubator 2009/10 – 2011/12 (GST exclusive).

Applicant	Location	Year 1: 2009/10 NZ$ (GST excl.)	Year 2: 2010/11 NZ$ (GST excl.)	Year 3: 2011/12 NZ$ (GST excl.)
PowerHouse Ventures	Christchurch	1,050,000	1,025,000	1,000,000
The Icehouse Accelerator	Auckland	925,000	900,000	875,000
BioCommerce Centre	Palmerston North	474,000	474,000	474,000
Creative HQ	Wellington	575,000	600,000	600,000
e-centre Innovation Centre	Albany	450,000	450,000	400,000
AUT Business Innovation Centre	Manukau	400,000	375,000	350,000
Upstart Business Incubator	Dunedin	650,000	650,000	625,000
SODA	Waikato	-	-	100,000
Industry Projects		32,000	82,000	132,000
Appropriation for Incubator Support Programme		**4,556,000**	**4,556,000**	**4,556,000**

Source: NZTE Board Paper - Options for Enhancing the Incubator Support Programme, 2012 (MED 1327181).

The NZTE incubator support programme is designed to support incubators with a particular purpose, to enhance the survival and growth of early-stage high-growth businesses. There are other organisations in the entrepreneurial ecosystem which also incubate start-ups, for example some of the university commercialisation offices, however these are not funded through this programme. This is discussed further in Chapter 7, Incubation Models in New Zealand.

4. Policy Framework

In this section we discuss the policy framework for the Incubator Support Programme. This brings together the key policy documents including the 2008 Evaluation of the Incubator Support Programme and the associated briefings and Cabinet Paper. It also draws on some more recent policy consideration that has been developed in tandem with this evaluation. The small number of policy documents reflects the relatively small size of the government's investment at $4.6 million per annum.

4.1 Business growth agenda

Government supports business incubators through its Business Growth Agenda and the specific objective of "building a more productive and competitive economy" [EGI Min (12) 3/1]. The first BGA progress report on Building Innovation, published 20th August 2012 states that the government will identify and implement improvements to incubator settings:

> "Not enough innovative high-growth firms are being created in New Zealand and staying located here, and growing to the point where they generate significant economic benefits as well as stimulate investments in other firms. The Government is investigating ways to improve our incubator model so that more potential high-growth firms successfully complete the seed commercialisation stage and launch their product".

4.2 Programme Rationale

The primary objective of the Incubator Support Programme[6] is to enhance the survival and growth of early-stage high-growth businesses via the development of high quality incubators.

The Incubator programmes intermediate objectives are to:

a) Focus incubation activities on start-up firms with potential to become high-growth, as this is where the market failures are greatest.

b) Promote best practice among incubators in New Zealand, so as they can be more effective at assisting start-up firms.

c) Enhance networking among incubator managers and with organisations that have an interest in incubation and incubated businesses (i.e. angel investors, venture capitalists); and

d) Enhance networking between incubators and Crown Research Institutes (CRIs) and universities to encourage technology transfer and commercialisation.

The goal of NZTE funding of business incubators is to contribute to economic growth by fostering the development of new business and entrepreneurs with high-growth potential. It is the intention that the business incubators will nurture companies to become more successful or achieve success faster than they would have otherwise. High-growth firms are particularly important for economic development for two reasons.

1. Firms undergoing periods of high-growth contribute a disproportionate amount to employment and productivity growth.
    - In a review of the literature Henrekson and Johansson (2008) found that high growth firms generate "all or more than all net jobs (in the case where employment shrinks in non-gazelle firms as a group)".

[6] EDC (08) 184 on the 22 September 2008

- Research commissioned by the US Small Business Administration, Acs et al (2008), found that on average high growth firms were 33% more productive (measured as revenue per employee) than other firms, across all time periods and firm size categories.

2. Firms that undergo periods of high-growth are also a key source of future highly productive export-orientated firms.

Role of Government

The government funds business incubators because the returns are economy-wide (and therefore cannot be fully captured by a private organisation), and they help overcome information and coordination problems for start-up firms.

The market is unlikely to provide incubation services to start-up firms in the absence of government funding. Start-up firms are very risky, and as payment for incubation is usually through equity, the expected return is less than it would be with more developed firms. Government is interested in supporting start-up firms because they have the ability to develop disruptive technologies, which can challenge the market forcing other firms to improve to meet the new standard, or lose market share. This process has a broader impact on the economy than simply the growth of the new firm. This broader impact cannot be captured by private organisations, they will therefore not price the outcome in the same way, and will not choose to operate at this end of the market.

Information problems occur because incubated firms usually seek to develop unproven markets or technology. Their value proposition can, therefore, be difficult to quantify leading to information difficulties with investors and the wider market. As a consequence they find it difficult to get their businesses off the ground. Incubators work to bridge this gap by working with firms to better position them for the market, and working with key market players, including investors, to make them more aware of the value proposition of incubated firms.

Incubators also address coordination problems for start-up firms. Incubators act as a mechanism to bring resources to help start-up firms, including technical experts, entrepreneurs, market networks and capital networks. They also develop relationships with universities and CRIs to help in the discovery of new processes and products and the transfer of such knowledge to the marketplace.

Self-Sustainability

The current policy of self-sustainability is not considered fit for purpose. The government funding incentivises incubators to assist businesses at an earlier stage than they otherwise would. They are also higher risk, so fully privatised incubators are unlikely to get the greatest return at this end of the market. Without government funding it would be in the incubators best interest to move their focus to more developed firms where there is a much higher chance of success. However, it is very early stage businesses and entrepreneurs that face the greatest information and coordination problems, as they have fewer resources and lack experience.

While government funding is crucial incubators also need community buy-in, to ensure their services are valued by those using them. As such government funding should typically not exceed 50 per cent of the cost of running the incubator.

The length of funding contracts is also important. Prior to 2008 incubators were awarded their funding from government for a 12 month period. This was deemed to be too short for incubators to effectively plan, and show future commitments to incubated firms and sponsors. The current 3 year funding round is widely agreed amongst officials and incubator managers as a good compromise between regular accountability and a longer term commitment.

4.3 Intervention Logic

The intervention logic presented here has been updated as part of the evaluation process to recognise the current policy settings. Policy teams within MBIE have been consulted in the process. As yet NZTE have not signed off on the changes to the intervention logic.

The government regards incubators as an important part of the innovation eco-system in order to enhance the progression development of early-stage high-growth businesses. The development of early stage high growth businesses is important as these firms have been shown to contribute a disproportionate amount to economic growth. However, if left to the market, investors move further along the product lifecycle, where there is greater certainty of obtaining a return on their investment.

There are two key rationales for government funding for business incubators:

- the net benefits to New Zealand are positive and the expected private returns are insufficient to justify the risk that would be incurred by a private organisation, and
- they help overcome information and coordination problems for start-up firms.

A key interest for the government in supporting start-up firms is their ability to develop disruptive technologies, which can challenge the market and force other firms to innovate or lose market share. This process has a broader impact on the economy than simply the growth of the new firms.

Start-up firms are very risky. As a result, private providers are unlikely to deliver incubation services as the risks are so high. As the government sees the net benefits of high-growth firms are wider than the benefits individual company gain, there is a motivation to maximise the likelihood of survival for the firm.

There are information asymmetries between the firm's owners and potential funders, resulting in uncertainty for investors. These asymmetries occur because incubated firms usually seek to develop unproven technology or new markets. Their value proposition can be difficult to access for an investor, and the wider market.

The information asymmetry problem is amplified by the need for many New Zealand firms to be "born global" in order to have a market at a sufficient size to justify the costs and risk of product development, production and marketing, and to be able to exploit economies of scale. Having to understand different markets at the same time as positioning a new technology creates more uncertainties for a fledgling firm and for potential investors.

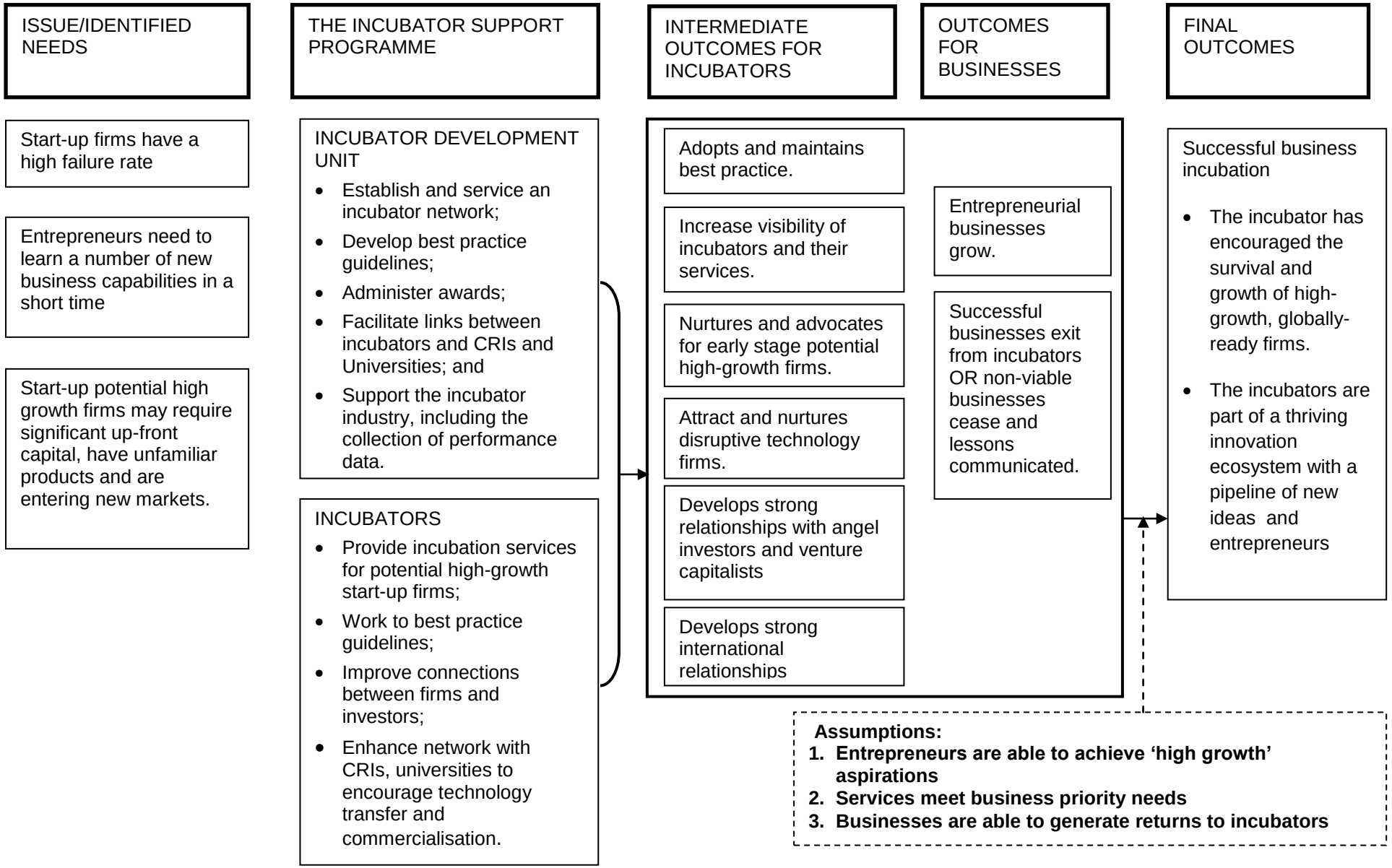
The Incubator Support Programme addresses:

- building the business capabilities of entrepreneurs to better position them for their markets, nationally and internationally;
- acting as a mechanism to bring in shared resources to help start-up firms, including technical experts and market and capital networks;
- providing information gaps by working with firms, including potential investors, to make them more aware of the value proposition of incubated firms.

Providing these services helps achieve the intermediate outcomes discussed above, that in turn contribute to the ultimate outcome of more, and growth of, high-growth globally-ready firms and a high functioning innovation ecosystem.

The diagram below, Figure 4, shows the intervention logic for the incubator programme, building off the role of government and programme objectives discussed above.

Figure 4: Business Incubator Policy Intervention logic.



5. Evaluation method

The Incubator Support Programme has been in operation since 2001. Two previous evaluations have been undertaken, in 2004 and in 2008. The 2008 evaluation recommendations are in Appendix 2.

This evaluation was requested to inform policy developments around incubators and incubated firms.

An evaluation plan was signed off, following consultation, by MED, with NZTE, Treasury, and MSI in March 2012.

Methodology

The methodology follows a post-programme model. We consider whether the programme has effected change, and whether this change is over and above what would otherwise be the case without the programme.

The evaluation has:

1. Defined for each incubator the particular 'business model' through which it operates. This has involved visits to incubators for in-depth interviews with incubator managers and follow-up consultation with them. We also ran a group discussion at the annual NZTE Incubators workshop in Auckland in April 2012 which addressed a number of issues.
2. Analysed existing performance measures and other information for facts on the size and reach of the current operations. Relevant material is presented in Chapters 6 and 8.

   Every attempt has been made to ensure consistent data has been provided in this report. This has been difficult as NZTE did not have an up-to-date set of firm performance data when the evaluation started. NZTE provided us with firm performance data in April 2012. They have since undertaken considerable work to improve the firm performance data they hold and have updated the information again in August 2012. We have not been able to completely revise and re-analyse all of the data presented in this report. We note at the bottom of each table and figure the source of the data used. Tables and figures not based on the latest dataset still present relevant trends and correct order-of-magnitude information.
3. Examined how incubators connect with and enhance entrepreneurship through:
   - Links to angel investment networks;
   - Links to business groups (e.g. informal company groups in the same sector, industry groups, EDAs) and universities;
   - Links with offshore entrepreneurs, investors, or incubators.

As well as discussing these issues with the incubator managers we have undertaken interviews with other stakeholders including managers of university commercialisation offices and angel investors.

This report presents our findings, conclusions, and policy relevant recommendations.

Part B of the evaluation will examine how incubators are affecting business performance through:

- case studies based on interviews with firms;
- use of econometric analysis, including difference-in-difference techniques, to examine the net impacts of incubators on firm performance.

Evaluation process and governance

The evaluation was led by the Ministry of Economic Development's evaluation team with input from the Ministry of Economic Development's policy team and regular weekly briefing and consultation with NZTE.

6. Delivery of the programme

The policy objective of the programme is to nurture and cultivate high-growth firms, via the development and support of high quality incubators. These are not easily measured outputs and can, at best, be assessed by proxies.

In this chapter we will present information on the number of firms and their reported performance measures. This information is based on data supplied by the incubators to NZTE.

6.1 Number of firms

The number of incubated firms across all incubators between 2007 and 2010 ranged from 102 (in 2008) to 137 (in 2010), see Table 4. The decrease in 2008 probably reflects the global financial crisis. In 2011, the number of incubated firms increased to 170. This can be mostly attributed to the increase of 34 incubated firms in the Icehouse incubator however three incubators have been steadily growing over the last three years. The other five have had individual challenges including significant leadership changes and effects of the Christchurch earthquake. One incubator, SODA, only started in 2009.

Table 4: Count of firms in incubation by incubator (2007-2011).

Incubator	Location	Year				
		2007	2008	2009	2010	2011
AUT	Auckland	7	4	8	9	6
BCC	Palmerston North	9	11	11	13	13
Creative HQ	Wellington	19	14	21	23	28
E-Centre	Auckland	14	14	14	16	16
Icehouse	Auckland	25	28	30	37	71
powerHouse	Christchurch	17	10	9	11	9
SODA	Hamilton	0	0	2	5	6
Upstart	Dunedin	25	21	16	23	21
Total		**116**	**102**	**111**	**137**	**170**

Source: Incubator firm performance data – NZTE, August 2012.

*** The SODA incubator was formed in 2009.**

6.2 Firm performance indicators

NZTE request incubators to report on client firm performance using trends in ftes (full time equivalent employees), domestic revenue, export revenue, total revenue and capital raised. This information has been amalgamated in Table 5 and can be used to gauge outcomes.

Table 5: Aggregated performance measures for residents and graduates, for 2007 to 2011.

Aggregated Performance Measures	2007	2008	2009	2010	2011
# Incubators Reporting	8	7	7	7	7
Total # Alumni Companies	145	185	216	266	331
# providing performance data	49	71	89	122	156
FTEs employed	596	870	1,212	1,369	1,746
Domestic Revenue ($m)	30.37	55.32	57.28	72.43	87.40
Export Revenue ($m)	21.77	24.29	51.84	89.75	163.64
Total Revenue ($m)	52.14	79.61	109.13	162.18	251.04
Capital Raised ($m)	17.98	18.95	31.05	33.42	21.95

Source: NZTE firm performance data, August 2012.

Note: As not all firms have reported, the actual aggregate performance will be higher than that presented here.

6.3 Geographic location of incubated firms

Table 6 shows that Auckland's three incubators contained 56% of the total alumni and firms in incubation in 2011. Compared to the percentage of Small and Medium Enterprises, SMEs, in Auckland, from all SMEs in New Zealand, there was a higher percentage of alumni and firms in incubation in Auckland. Wellington and Otago were the only regions with one incubator that had a higher percentage of alumni and firms in incubation compared to the national percentage of SMEs.

Table 6: Number of alumni and firms in incubation by region (2011).

Region	Population[1]	Number of Incubators	Alumni and Firms in Incubation		SMEs[2]	
			Number	Percentage	Number	Percentage
Auckland	1,486,000	3	277	56%	147,578	32%
Wellington	487,700	1	70	14%	46,874	10%
Otago	209,900	1	62	13%	23,149	5%
Canterbury	560,700	1	53	11%	58,891	13%
Manawatu-Wanganui	232,400	1	27	5%	23,265	5%
Waikato	413,100	1	6	1%	47,717	10%
Bay of Plenty	277,100	0	0	0%	30,432	7%
Northland	158,200	0	0	0%	18,977	4%
Hawke's Bay	155,300	0	0	0%	16,467	4%
Taranaki	109,700	0	0	0%	13,367	3%
Southland	94,900	0	0	0%	12,581	3%
Marlborough	45,600	0	0	0%	6,387	1%
Tasman	48,100	0	0	0%	6,021	1%
Nelson	46,200	0	0	0%	5,014	1%
Gisborne	46,600	0	0	0%	4,517	1%
West Coast	32,900	0	0	0%	3,361	1%
Total	**4,404,400**	**8**	**495**	**100%**	**464,598**	**100%**

[1] Estimate resident population at 30 June 2011 – Source: Statistics New Zealand.

[2] Number of SMEs with 0-19 Employees in 2010 - Source: SMEs in New Zealand: Structure and Dynamics 2011, MED, 2011.

Source: Incubator firm performance data – NZTE, August 2012.

6.4 Sector distribution of incubated firms

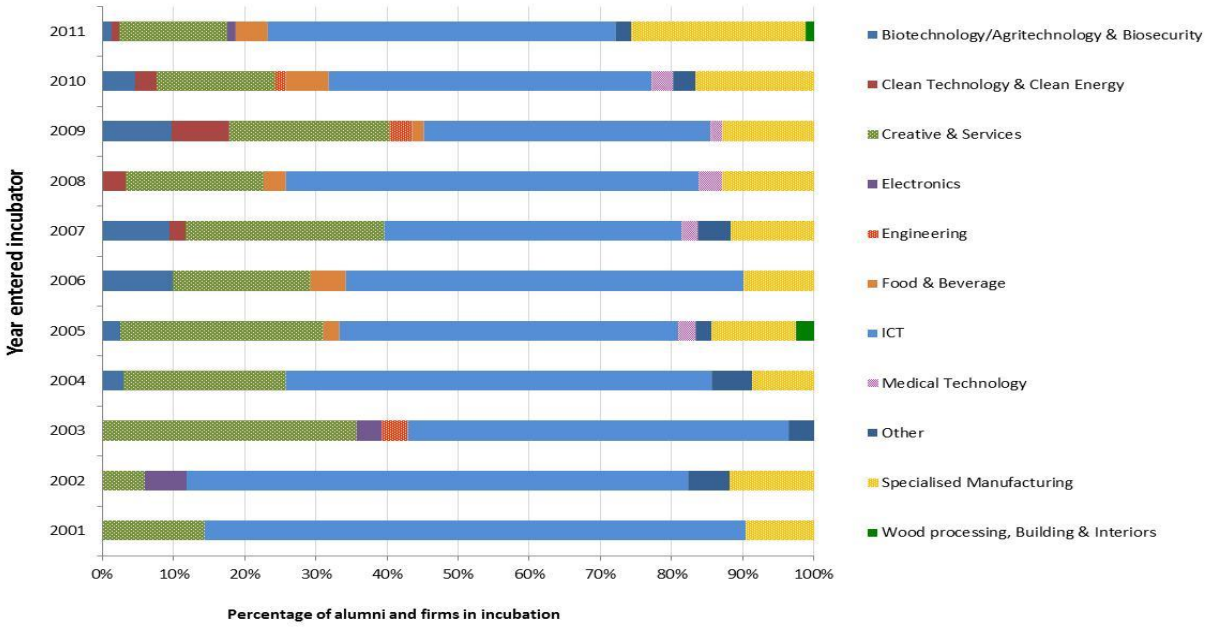
In terms of the type of firms entering incubators, it is evident that across the years (2001-2011) the largest percentage of firms has been in the ICT sector (Figure 5). The sector classification is indicative, with some NZTE sector and some incubator sector classifications. ANZSIC standardised industry classifications would improve data quality.

Forty nine per cent of firms entering incubation in 2011 were from the ICT sector. Creative and Service firms entering incubation were 28 percent in 2005 and 15 percent in 2011[7]. The percentage of Specialised Manufacturing firms has increased since 2004 with approximately 25% of firms entering incubation in 2011. There has been an increase in diversity of sectors represented by firms in incubation between 2001 and 2011. Between 2001 and 2004 there were between three and five sectors represented in incubation. This is compared to nine sectors in 2010 and 2011.

Some incubators have a specific focus on particular sectors. For example, the Ecentre has a focus on ICT firms. Between 2001 and 2012, in all incubators except for SODA, the highest percentages of alumni and firms in incubation were from the ICT sector. In the SODA incubator the largest percentage (45%) of firms were from the Creative & Services sector. The reasons for this sector distribution will be discussed further in section 7.3.

There is a diversity of sectors across the incubators with generally more mature incubators having alumni and firms in incubation from a broader range of sectors. For example, powerHouse and Icehouse had alumni and firms in incubation from nine and six sectors respectively while SODA had three sectors. The sector spread of firms also reflects the regional business and entrepreneurial environments of the incubators location.

Figure 5: Distribution of sectors by year firms entered incubator.



Source: Incubator firm performance data – NZTE, August 2012. N = 21 for 2001, 17 for 2002, 28 for 2003, 35 for 2004, 42 for 2005, 41 for 2006, 44 for 2007, 31 for 2008, 62 for 2009, 67 for 2010 and 93 for 2011.

[7] The NZTE website states "New Zealand's creative industries create knowledge, goods and services across several fields, including screen production, television, music, design, fashion, publishing, textiles and digital content. The industry has built on unique aspects of New Zealand's culture to become a significant contributor to the country's economy and a vibrant feature of its international profile."

6.5 Cost of outputs

Between 2009/10 and 2011/12, $4,556,000 (ex GST) per year was allocated to the Incubators Support Programme. This money is distributed between incubator awards, $4.4m annually, and miscellaneous grants e.g.: conferences, workshops, and industry projects. Table 3, in Chapter 3, shows that between 2009/10 and 2010/11, seven incubators received funding. In 2011/12, this increased to eight incubators with a small award to the SODA incubator following its establishment in 2009.

The range of funding for individual incubators is large: from $100,000 for SODA to $1,025,000 for powerHouse. The funding reflects NZTE's assessment of the incubators, and the total amount of funding available.

Incubator performance in part reflects the level of funding and some of the lower performing incubators may perform better if funded at the same level as the top performers.

Incubator performance also reflects their leadership and the wider entrepreneurial and business environment. This programme does not completely underwrite incubators but supports those incubators established and reflecting entrepreneurial activity around them. The better performing incubators have a wide base of support in their communities. This support is financial, in kind, and collaborative.

Given that the total value of awards has not increased since 2009/10 while the number of businesses in incubation has increased and the performance of incubator exits appears to be improving, the programme appears to be becoming more efficient.

In the current economic situation if overall funding remains at a similar level, it would be possible to slightly increase the amount of award funding by putting all of the $4.5m to the incubators and funding the conferences, workshops, and industry projects from the IDU budget.

Annual panel assessment, while providing some independent perspective, could be replaced by panel assessment at the start of the three year process.

The costs and benefits of such options should be considered by NZTE.

6.6 Process for selecting and funding incubators

Key features of the three year funding process include:

- annual capability assessments undertaken by NZTE. The assessment reviews the quality of the following incubation activities:

deal flow	client selection
needs assessment	access to professional service firms
mentoring and expert advice	facilitation of client networking
establishment of advisory boards	graduation processes
incubator facilities	incubator governance
incubator management	financial management
institutional linkages	incubator evaluation processes.

- an assessment panel, usually the incubator development unit manager, another NZTE staff member with relevant experience, and two outside experts. In the first year the assessment panel considers written applications and client presentations and makes recommendations for approval, funding amount, and KPIs. The NZTE board makes the decision to fund or decline applications following receipt of panel advice. In subsequent years capability assessments and performance against KPIs are used to ratify contracts.

- Three-year funding is available for incubators who have been receiving funding for a number of years. For new applicants annual funding is recommended.

- As well as the annual capability assessment and panel assessment incubators are expected to provide quarterly reports and an annual report of graduate company performance data.

- Each incubator is set key performance indicators (KPIS) reflecting their individual structure and development goals. Examples of KPIs include:
    - A minimum of two nominations to the 2011 Deloitte Rising Star Awards
    - A minimum of twelve companies in full incubation by 31 March 2012
    - Providing a revised business plan and budget for the (incubator) by (specified date)

  KPIs can be used to influence the direction and development of individual incubators.

The review process has, over the years, been used to challenge and exclude non-performers. Decisions NZTE make have a fundamental influence on the market. Transparent and robust measures of the quality of individual incubators are needed to inform decisions.

From discussions with incubators and wider stakeholders the NZTE process for selecting and funding incubators is working effectively.

Finding

All of the funded incubators agreed that the new three-year process was better in that they had more security of funding and are able to better negotiate with other stakeholders e.g. universities, economic development agencies, investors.

Recommendation

The current policy of moving incubators towards self-sustainability is removed in favour of an on-going commitment to fund incubators at up to typically 50% of their operating costs, for three year intervals with annual reviews. This will enable NZTE to ensure incubator focus remains at the early stage of high-growth firm development.
Evaluation at six-year intervals to review this policy is recommended.

There is general agreement, amongst the incubators themselves and other stakeholders, that incubators are critical components of the entrepreneurial pipeline. We will try and test this claim with econometric analysis in the Statistics NZ Integrated Data Infrastructure.

While these statements hold true in general for the incubator programme it does not imply that all incubators are equal. The eight funded incubators are all different. They perform differently and some are more successful than others. While powerHouse and Icehouse have both received international awards for their incubation practices there are others which are struggling to sustain appropriate deal flow.

NZTE have been able to encourage collaboration between incubators to share best practice while retaining an element of competitive funding for the limited resources available. This is a delicate balance but has been successfully achieved to date.

NZTE funding is usually capped at 50% of the total individual incubator budget. Thus incubators have autonomy to develop using other resources within the constraints of their agreements with NZTE.

In terms of compliance reporting, incubators stated NZTE requirements were reasonable.

7. Incubator models in New Zealand

While each of the eight incubators NZTE supports is unique there are some commonalities. We will first look at these and then discuss individual exceptions. The main findings are:

- An incubators geographic location determines the nature and size of its client base.
- Internationalisation activities need to be appropriately targeted and relevant performance measures should be used to focus activities in this area.
- The most important activities for all incubators are 'pipeline and selection of firms' and 'mentoring business formation, leadership and planning'. 'Markets and business networks' and 'capital raising' were next most important. 'Product development' and 'incubator exit and alumni' were least important and were particularly lowly rated by smaller incubators.

7.1 Not-for-profit

All supported incubators are not-for-profit organisations. They have governance boards with local stakeholder and business members. Costs are (partly) recovered from client firms although the extent to which this happens varies for individual incubators.

7.2 Geographic location

Incubators are constrained by their local environment, including the diversity of businesses in the communities that they serve. Client firms prefer to not move or travel substantial distances to take up incubator residency. At this time there is not sufficient specialisation by incubators to entice travel for specific services.

Some incubators are fielding inquiries and providing consultancy services for more distant clients, particularly where those clients are from regions without incubator services. There has also been discussion about providing regional services for example in Hawkes Bay or the Bay of Plenty from Auckland or Palmerston North, and in greater Southland from Dunedin. No substantial remote or satellite incubator activity has occurred at this time.

Some of the current incubators with smaller business catchments appear to struggle to attain critical mass. Table 6, Section 6.3, indicates the number of SMEs by region across New Zealand. Incubators can be successful in smaller regions if they can access deal flow i.e. a major source of entrepreneurs and IP for businesses from local research organisations.

BCC in Palmerston North is located in the Fitzherbert Science Park and has relationships with a number of organisations based there.

Hamilton might be expected to be large enough to support an incubator, however SODA does not have working relationships with the major research organisations in their region. Waikatolink, the commercialisation arm of Waikato University works independently of SODA and it is actively coordinating KIWINET, commercialisation activities for a group of 6 Universities and 4 CRIs. KIWINET is funded by MSI through the National Network of Commercialisation Centres (NNCC). WaikatoLink provides incubation services for firms spinning out of university research and has an established commercialisation record. WaikatoLink is not funded by the NZTE incubator support programme. It will require further time to determine if the region can support two incubators. It may be possible by the incubators focusing on specialist services. This will need to be carefully monitored.

New Zealand's population size and distribution means that the sustainability of incubators needs careful consideration. The 2008 evaluation reported figures of one incubator per 250,000 population in the US. The entrepreneurial environment and culture in NZ is quite different to that of the US. In 2008 New Zealand had approximately one incubator per 500,000 population and per 43,000 businesses. This remains the case today. Incubators in regions below these thresholds have particular challenges in sustaining deal flow. The NZTE Incubator Support Programme does not support all organisations incubating businesses in New Zealand. There are other incubators but they have either not applied for funding or do not meet NZTE's funding criteria.

7.3 Firms in Incubation

Incubators all carefully screen potential applicants to ensure that the business proposition and entrepreneur's attributes are such that they have a high likelihood of becoming high-growth businesses. This is necessary for the programme objective to be met.

Most incubators have a majority of firms in the 'ICT' and 'Creative and Services' sectors, see Section 6.4. This is, at least partly, because for a firm to be resident in an incubator they need to be able to easily relocate their offices or at least their management into the incubator. This is more difficult for firms which need significant infrastructure or factory space, for example for food processing and some manufacturing firms.

It is also easier for most 'ICT' and 'Creative and Services' firms to become exporters as their product delivery or service is provided over the internet and transport of material goods to international markets is not involved.

Thus while there is no reason for excluding other sectors from these high-growth incubators by their very nature they will attract more firms in the ICT and Creative and Services sectors.

There are developments in other sectors which may assist start-up businesses but in different ways to incubators. For example the Food Innovation Network is developing four regional hubs in Auckland, Waikato, Palmerston North, and Canterbury. The Foodbowl in Auckland provides open, hands-on, access to a world-class manufacturing pilot facility. The centre affords businesses, both start-up and established, a cost-effective and low-risk way to develop, test, and prove their initiatives through commercial pre-production. While Foodbowl does not provide incubation services for start-up firms there is potential for collaboration with Auckland incubators.

7.4 Internationalisation

In New Zealand for a business to be high-growth they need to be looking to internationalise. Businesses ideally need to have a 'born global' aspiration. In their screening of potential applicants, incubators consider the suitability of the business product for export and the entrepreneur's capacity and desire to internationalise.

Each incubated firm will have a different path to internationalisation depending on their products, potential markets, capabilities, and resources. For example an ICT business may look to enter offshore markets on the west coast of the United States while a pharmaceutical business may enter European markets first.

While most of the mature incubators are developing offshore expertise they cannot hope to all provide assistance in all possible offshore markets. Incubators need knowledge of and may benefit from access to NZTE offshore networks. Less than 10% of both firms in incubation and alumni are NZTE clients. Incubators themselves are not NZTE clients. The IDU should determine the best way for incubators and incubator clients to access NZTE offshore services.

Other offshore assistance comes from networking and developing relationships with offshore incubators. Productivity of direct relationships with highly-respected individuals and/or other partner organisations will depend on client businesses being able to realise benefits.

For incubators that specialise in particular areas relationships with a particular country may be worthwhile. However for most of the smaller incubators extensive investment in particular markets is likely to have few benefits for their clients.

As the funded incubators mature, improved internationalisation is a key to higher numbers of potential-high-growth exits. Improved reporting and use of performance measures would be helpful in focusing internationalisation efforts. Collaboration between incubators will help the limited resources stretch further in this area.

Operational Suggestion:
Metrics for internationalisation need to reflect incubator client business benefits e.g. export revenues, offshore agreements, offshore capital raised.

7.5 Incubation activities

The range of services that incubators typically supply are as follows: Pipeline and selection; Mentoring business formation, leadership, and planning; Product development and know-how; Markets and business networks; Capital; and Incubator exit and alumni. Funded incubators were asked to rank these services. A simple ranking scale of 1 to 5 was used, see Figure 6.

While these rankings are qualitative assessments some useful generalisations can be made. All incubators rank 'pipeline and selection of firms' and 'mentoring business formation, leadership and planning' as their most important functions. Most incubators are involved in or run local entrepreneurial competitions or challenges. These usually take up considerable resources for which the incubator may receive substantial payment. Entrepreneurial competitions are part of incubator's pipeline development with people or start-up firms succeeding in the challenge going on to other incubator services or even full incubation. Some of these competitions are run in collaboration with universities. Others are community based. These competitions are typically only 20 or 30% of incubators' pipeline activities. Others include start-up weekends, university entrepreneurial courses, community events and courses, sales teams.

'Markets and business networks' and 'capital raising' while important services were more often ranked slightly lower than 'pipeline and selection of firms' and 'mentoring business formation, leadership and planning'. Most incubators indicated that while capital raising was a firm goal, their initial emphasis was on obtaining income from sales. Angel investors involvement with a firm was more likely at or near the time of exit from the incubator. Incubators value their relationships with angel investors and angel investor groups and use individuals from the angel groups in incubation processes, for example as firm mentors when individual angel experience is relevant. Incubators also use angel groups for firms to practice their pitching. This helps sharpen client firm thinking about their value proposition.

'Product development' and 'incubator exit and alumni' were considered the least important of this list. Most incubators thought that product development was important but something that the firm was responsible for rather than the incubator. Incubators with fewer alumni generally ranked incubator exit and alumni lower. Incubators that ranked exit and alumni higher felt their equity and interest in a firm, through board or management representation, extended their influence beyond incubator exit.

The more mature incubators with established processes generally had higher aggregated scores than those incubators with less established processes.

Figure 6: Incubators ranked provision of services: pipeline and selection, mentoring business formation, leadership and planning, product development and know how; markets and business networks; capital raising; incubator exit and alumni. The size of the bubble reflects the ranking from 2 to 5. The lowest ranking was 2.

NZTE has played a role in facilitation of best practice through encouraging incubators to develop specific processes and practices that have been seen to work in other incubators.

Firms see value in incubator services through:

- access to office space and shared office services;
- management advice from incubator staff, mentors, and business consultations;
- networking both with other like-minded firms in the incubator and with regional, national, and international businesses; and
- improved reputation through association with the incubator.

7.6 Entrepreneurial environment

Incubators do not work in isolation. They are part of the entrepreneurial environment which includes public research organisations and their technology transfer, local government economic development agencies, and the wider business environment including investors, banks, consultants and other private businesses.

In New Zealand public research organisations (PROs) include universities and the Crown Research Institutes (CRIs). The universities generally have technology transfer offices (TTOs) at arms-length from their core operations which are seen as teaching and research, e.g. Auckland Uniservices or Viclink. University commercialisation activities are not strongly incentivised by the Performance-Based Reporting Framework (PBRF) used in these organisations. CRIs' commercial operations are more embedded as they are expected to operate commercially and return an annual profit to their shareholders (The Minister for Science and Innovation and the Minister for Finance).

Each of the funded incubators has owners or ownership trusts and processes which reflect their local entrepreneurial environment, see Table 7.

Table 7: Ownership of incubators, this table does not reflect proportionality.

	PROs	Local Government	Businesses
AUT	X		
BCC	X		X
Creative HQ		X	
E-Centre	X		
IceHouse	X		X
powerHouse	X	X	X
SODA	X	X	
Upstart	X	X	

A number of incubators have signed memoranda or some type of agreement with local PROs. All of the funded incubators have boards and local organisations are represented on them. Ownership or board representation is *not* indicative of the same level of involvement or deal flow. For example a university may consider incubator support as a community service or may see the incubator as providing the university a commercialisation service.

We have spoken to incubators, angel investment groups and university commercialisation offices and there is general agreement that the entrepreneurial environment in New Zealand has developed significantly over the last decade. The number of people with entrepreneurial capabilities is increasing. Key ways in which this development is seen include:

- A number of mature and two world-class incubators;
- An angel investment industry including both angel networks and individuals;

- Successful entrepreneurs, both from incubators and independent businesses; and
- a sustained pipeline of firms entering incubators.

That the entrepreneurial environment needs to develop further was also a commonly held opinion by those stakeholders we interviewed. This was illustrated, for example, by the attitude that failure is still considered a bad thing rather than an experience entrepreneurs can learn from. Fast failure of businesses in incubation can be considered a success and is preferable to propping them up. Development of the entrepreneurial environment can be effected through activities of incubators; increased entrepreneurial capability; entrepreneurial education for students and staff of universities and other PROs; and through increased understanding of entrepreneurship in the wider business community.

7.7 Differences in models

New Zealand incubators funded by NZTE do not conform to a single model. They usually practice one of two types of incubation:

- identification of an entrepreneur with either a business ready for incubation or a business proposal, or
- identification of IP suitable for commercialisation.

Both practices can occur in the same incubator. In the first case the incubator works with the entrepreneur to develop the business. In the second, often more intensive, process the incubator builds a team to form the business around an idea or piece of IP.

Two New Zealand incubators have received international recognition for their world class practices: IceHouse and powerHouse. Icehouse operates using the first model which we will call the entrepreneur-led model. powerHouse is operating an IP model with sites at both the University of Canterbury and Lincoln University.

The other six incubators have some mix of both models reflecting their local entrepreneurial environments. The aim of the Incubator Support Programme policy is not dictate specific models but to encourage the incubators to work within their local environments to best assist potentially high-growth start-up businesses.

7.8 Public research organisation linkages

Ministry of Science and Innovation (MSI) and its predecessors have funded firms resident in incubators since incubators started. This is discussed further in Chapter 9.

Six of the eight University commercialisation offices were interviewed as these organisations are pivotal in the transfer of IP from researchers into the business community. This can be achieved in a number of ways including: sale of IP, licensing of IP, and incubation of businesses. Three of the commercialisation offices, Uniservices, WaikatoLink and Otago Innovation Limited, incubate companies themselves. Other commercialisation offices have chosen to work more closely with the local incubator, particularly where that incubator has established a reputation for success and the capability to diversify.

Incubators and commercialisation offices have different services and networks and sometimes one is more suitable than the other for the incubatee. The choice of if, and where to, incubate is a decision made by the entrepreneur.

There are advantages and disadvantages for companies remaining resident on university campuses. Advantages include ease of access to high-technology infrastructure and close proximity to the researchers who have developed the IP. Researchers can continue to contribute to developments required for commercialisation. Disadvantages include that the university has an academic culture with an emphasis on

teaching and research rather than business. Start-up entrepreneurs can benefit from being immersed in an entrepreneurial environment such as that of any one of the funded incubators.

Six of the eight incubators have had deal flow from their local universities. For some this is a relatively new phenomenon developed over the last two or so years. This reflects changes in the early start-up environment, a maturing of incubators and an improvement in the co-operation and collaboration in this sector. It is essential for incubators using the IP-based model to have deal-flow from universities.

MSI funding of commercialisation offices is largely through two funds, the Pre-Seed Accelerator Fund (PSAF) and the National Network of Commercialisation Centres (NNCC). These are discussed further in Chapter 9.

7.9 Investor linkages

Incubators all have either their own angel or venture capital investment networks, e.g. Ice Angels, powerHouse Ventures, or have relationships with local angel investment networks. Angel investment networks have developed significantly over the last decade with encouragement by central government through the Seed Co-investment Fund and the Venture Investment Fund Programmes.

We spoke to four angel investors about incubators and their interaction with angel investors. They emphasised that their views reflected their individual experiences and may not be representative of the whole angel investment community.

Deals from incubators only represent a small part angel deal flow, see Figure 2 and Figure 3 in Chapter 2. Incubators use the angel networks as sources of specific expertise and mentors. They also organise for incubatees to pitch to angel groups. This provides the incubatees with experience at pitching. It also informs the angel investors about upcoming deals. Angel investors do prefer businesses from incubators[8] as they know they can expect a certain level of preparation and entrepreneurial education from incubated businesses.

The angel investors we spoke to thought there is room for improvement in the number of businesses graduating from incubators ready for angel investment.

Two areas for improvement in incubator practices were mentioned in our discussion with angel investors. They were:

1. Speed at which the business team is built in the incubator. Incubation phase is constrained by the lack of capability in firm teams. Entrepreneurial capability is lacking in New Zealand.
2. For New Zealand businesses to be high-growth they need to go offshore to scale. This internationalisation step has much room for improvement.

While angel investors saw room for improvement in the incubator programme they see the current incubators as a successful base from which to work.

Angel investment is one way to raise business capital. In most cases incubators encourage client businesses to first raise capital through sales. Angel investment is a path businesses embark on towards the end of their incubation.

Angel investment is more difficult now than it was around 2008/09 as angels are now making second round investments and new deals are harder to fund. Returns on initial investments are slower than what angel

[8] *NZ Young Company Finance*, *March 2012. (See Literature Review)*

investors initially expected, taking at least five years. Many angel groups are waiting to see any returns and appetite for investment is less until there are some returns.

Incubators also noted that with syndication of angel investment, rather than a single investor investing in a company so that a group of investors share the risk, it is not always possible to access the mentoring component usually available with angel investment. Also while some angel investors do have relevant experience for the incubated firms, this is not always the case.

8. Achievement of policy outcomes

This chapter looks at reporting measures, both firm reporting measures and NZTE reporting measures, and what they tell us about the incubator support programme.

8.1 Firm reporting measures

NZTE contracts incubators to report graduate company performance data. NZTE currently requests information on company status, ftes (full time equivalent employees), annual revenue, export revenue, debt funding, grant funding, and equity capital. NZTE has run an annual process to collect alumni information. Historically this information has not been aggregated into a single spreadsheet.

Incubators were invited to update their information as part of their application for 2012/13 roll-over funding and some information became available in early April 2012. The majority of incubator graduate businesses year end is March 31. For any company some time is needed to finalise accounts before information is available. The information was again updated in August 2012.

Table 8: Firm performance data as reported to the NZTE board in February 2012. Data for 2005 have been removed for comparison purposes.

Aggregated Performance Measures	2006/7	2007/8	2008/9	2009/10	2010/11
# Incubators Reporting	8	7	7	7	7
Total # Alumni Companies	124	157	180	235	257
# providing performance data	75	68	95	90	99
FTEs employed	618	651	997	1,099	1,097
Domestic Revenue ($m)	58.3	42.9	56.9	68.7	68.8
Export Revenue ($m)	14.1	28.4	44.9	58.6	73.8
Total Revenue ($m)	72.4	71.3	101.8	127.3	142.6
Capital Raised ($m)	12.9	13.1	30.5	21.6	20.9

Source: NZTE Board paper – Options for enhancing the Incubator Support Programme, 2012.

Table 9: Firm performance data provided by NZTE in August 2012. (Identical to Table 5.)

Aggregated Performance Measures	2007	2008	2009	2010	2011
# Incubators Reporting	8	7	7	7	7
Total # Alumni Companies	145	185	216	266	331
# providing performance data	49	71	89	122	156
FTEs employed	596	870	1,212	1,369	1,746
Domestic Revenue ($m)	30.37	55.32	57.28	72.43	87.40
Export Revenue ($m)	21.77	24.29	51.84	89.75	163.64
Total Revenue ($m)	52.14	79.61	109.13	162.18	251.04
Capital Raised ($m)	17.98	18.95	31.05	33.42	21.95

Source: NZTE firm performance data, August 2012.

NZTE is now stressing the importance of firm performance information and the importance of accuracy of firm performance information, partly in response to this evaluation. This has resulted in improved data becoming available, even for years as far back as 2007, see Table 8 and Table 10.

The number of incubators is the same in both tables. The number of firms in incubation has changed by at least 25%, even as far back as 2007. The number of firms providing performance information has increased for 2010 and 2011, but decreased in earlier years. Some definitions have changed between the two data sets.

The quality of the data NZTE can provide reflects the relationship between NZTE and incubators (and between incubators and their clients). Collection and use of aggregated firm performance data should be considered a priority of the NZTE incubator development unit.

While the data allows an understanding of the programme achievements to be developed the flow of data is also reflective of the relationships, both between the incubators and their client businesses and the incubators and NZTE. Performance data can be used to focus the relationship on programme objectives. It is not the collection of data that is important but how the data is used to develop a mutual understanding of what is being achieved. Are there more high-growth firms being formed through the incubator programme? How many high-growth firms are exporting?

Incubators are now reporting three types of firms: firms in pre-incubation, firms resident in the incubator, and alumni firms. We will only consider the latter two categories of firms i.e. those firms resident in the incubator in full incubation and those exited from the incubator. Few of the firms in pre-incubation had any performance data supplied.

Data is only available for firms that are independently trading. Firms that are no longer trading, have merged or been sold, cannot continue to report and are not included in this analysis. It should be noted that firms being sold or merged may also be a successful outcome but they cannot continue to be monitored.

Two of the eight incubators had 85% or more of their independently-trading resident and alumni firms reporting the three measures of ftes, annual revenue and export revenue. Two incubators had less than 20% of their independently-trading resident and alumni firms reporting their export revenue. Export revenue was poorly reported by another two incubators. As exporting is a specific indicator of a businesses' ability to be 'born global' it is an important metric for this programme.

Firm performance reporting is a measure of incubator health in that it is indicative of the nature and degree of engagement of firms in the incubator. One of the overall findings of the NBIA Report, Incubating Success (Lewis et al, 2011) was that 'High-achieving incubators collect client outcome data more often and for a longer period of time than their peers.'

Incubators and firms should be encouraged to provide complete reporting information. Individual metrics of, for example, the number of employees, are not necessarily good measures by themselves. One highly productive firm with few ftes and large export sales may have ten times the turnover of another incubated firm with higher ftes.

Operational Suggestion

We suggest that NZTE reviews its contract arrangements in which all the money is paid annually at the start or the year and contractors (incubators) only partially meet their obligations.

Performance information required as part of these contracts is indicative of the extent to which the focus is on delivery of key results, as distinct from activities.

8.2 Employment

In 2011, of the resident and alumni firms that reported ftes, 62% of firms had between one and five ftes, Table 10. Of the firms in this group, approximately 59% had one fte. There were 65 firms (20%) that had no ftes in 2011. There were three firms (1%) that had between 100-499 ftes in 2011. The remaining 17% of firms had between 6 and 99 ftes.

Table 10: Firms, both resident and alumni, by FTE size group in 2011.

Employee Size Group	Number of firms	Percentage of all firms
0	65	20%
1-5	198	62%
6-9	25	8%
10-19	16	5%
20-49	13	4%
50-99	1	0%
100-499	3	1%
Total firms reporting FTEs	**321**	**100%**

Source: Incubator firm performance data – NZTE, 2012.
Note: A firm can have no ftes in a number of circumstances, e.g. it is run by an owner/manager.

The average number of ftes of firms involved in the incubation programme has increased over the years from 2.4 in 2007 to 3.4 in 2011.

8.3 Revenue

Table 11: Number and percentage of export revenue of firms in 2011.

Export Revenue ($)	Number of firms	Percentage of all firms
0	63	41%
1-50,000	34	22%
50,001-100,000	8	5%
100,001-190,000	6	4%
190,001-490,000	14	9%
490,001-990,000	10	6%
990,001-5,000,000	13	8%
5,000,000+	6	4%
Total firms reporting export revenue	**154**	**100%**

Source: Incubator firm performance data – NZTE, 2012.

Forty five per cent of firms still trading reported their export revenue in 2011. Of these, over 41% had no export revenue in 2011, Table 11. Twenty two per cent had export revenue of between $1 and $50,000. There were six firms that had export revenues of over five million dollars in 2011. The remaining 32% of firms had export revenue of between $50,001 and $5,000,000.

Sixty nine per cent of firms still trading reported their annual revenue in 2011. Of these, one third had no annual revenue, Table 12. Forty one per cent of firms had annual revenue of $190,001 or over with nine firms making over five million dollars in 2011.

Table 12: Number and percentage of annual revenue of firms in 2011.

Annual Revenue ($)	Number of firms	Percentage of all firms
0	78	33%
1-50,000	32	14%
50,001-100,000	15	6%
100,001-190,000	16	7%
190,001-490,000	30	13%
490,001-990,000	26	11%
990,001-5,000,000	30	13%
5,000,000+	9	4%
Total firms reporting annual revenue	**236**	**100%**

Source: Incubator firm performance data – NZTE, 2012.

8.4 Firm Survival

Table 13 shows the firms that are still in business in 2012 based on year of exit from the incubator. Survival percentages varied from 50% to 77%. Firms exiting the incubator in 2004 had the lowest percentage survival rate with only 50% of firms still in business in 2012. Firms exiting incubation in 2009 had the highest percentage survival rate with 77% still in business in 2012. This was higher than those firms that exited two years later (2011) for which only 63% were still in business in 2012.

Table 13: Businesses still active in 2012 by year of exit from the incubator.

Year of exit	Years exited	Exits	Firms still in business	
	Years	Number	Number	Percentage
Before 2004	>8	11	7	64%
2004	8	16	8	50%
2005	7	31	20	65%
2006	6	42	27	64%
2007	5	42	28	67%
2008	4	40	27	68%
2009	3	31	24	77%
2010	2	51	37	73%
2011	1	65	41	63%

Source: Incubator firm performance data – NZTE, 2012.

In 2010 survival rates for all New Zealand[9] firms birthed in 2007, were 55% for all firms, 50% for information media and telecommunications, and 49% for professional, scientific and technical services. While these statistics suggest that incubators enhance the survival of firms it may due to selection bias. Firms selected for incubation are more likely to survive.

[9] SMEs in New Zealand: Structure and Dynamics 2011, Ministry of Economic Development.

8.5 Firm Outliers

A number of large firms have a significant influence on the firm reporting metrics. The 10 firms, including both incubator residents and alumni, which are the firms with the highest number of ftes, or the highest annual or export revenue are outliers from the incubator cohort. Table 14 illustrates that these largest firms account for a high percentage of the aggregated number of ftes, annual and export revenues. Of the firms that were in each metric, six were in all three metrics. The three metrics identified fourteen larger firms.

Table 14: Large firms are outliers based on ftes, annual revenue, and export revenue.

Metric	Number	Percentage of aggregated totals
FTEs	841	48%
Annual Revenue	$159,322,500	63%
Export Revenue	$137,725,500	84%

Source: Incubator firm performance data – NZTE, April 2012.

These large firms account for a high percentage of the aggregated ftes, annual revenue, and export revenue for all incubated businesses. These metrics merely indicate that the firms are larger than the average incubated firm and are not *growth* measurements.

8.6 What is a high-growth firm in New Zealand?

High-growth firms can be defined in a variety of different ways. The OECD and Eurostat definition of a high-growth enterprise is:

> *"all enterprises with 10 or more employees at the beginning of a three-year period that record average annualised growth (in employment or turnover) greater than 20 per cent per annum over the three year period."*

This definition is not relevant as few businesses in incubators would have 10 or more employees. The current NZTE/MED definition of a high-growth exit from an incubator as defined in the NZTE Output Agreement is:

> *"a high-growth exit occurs when a business leaves the incubator with the following characteristics: is globally ambitious, has a well-thought out and executable business plan; has a thorough understanding of their target market; has a strong and experienced management team, has good independent governance."*

This definition can only be used by the incubators themselves as an intimate knowledge of the business is required to make the judgement. We will look at firms which have been identified in this way. From 2001 to 2008, NZTE defined a high growth firm as one that has:

> *"the potential to double full-time equivalent employees (ftes) during incubation; the potential and ambition to generate revenue of $0.5 million within two years of entry; the potential to raise external capital of $0.5 million during incubation; and the potential and ambition to generate revenue of $5 million within three years of exit."*

Using the firm performance data provided, firms were identified if they had achieved any of the measures excluding the measure of external capital.

OCED and Eurostat definition

Using the OECD and Eurostat definition there were 12 high-growth firms in the incubator programme based on turnover. Seven of these were alumni of the Icehouse incubator. BCC had two high growth firms. E-

Centre, powerHouse and Upstart all had one high-growth graduate firm. Based on employment, there were 9 high-growth firms. Seven were in the Icehouse incubator, one in BCC and one in E-Centre.

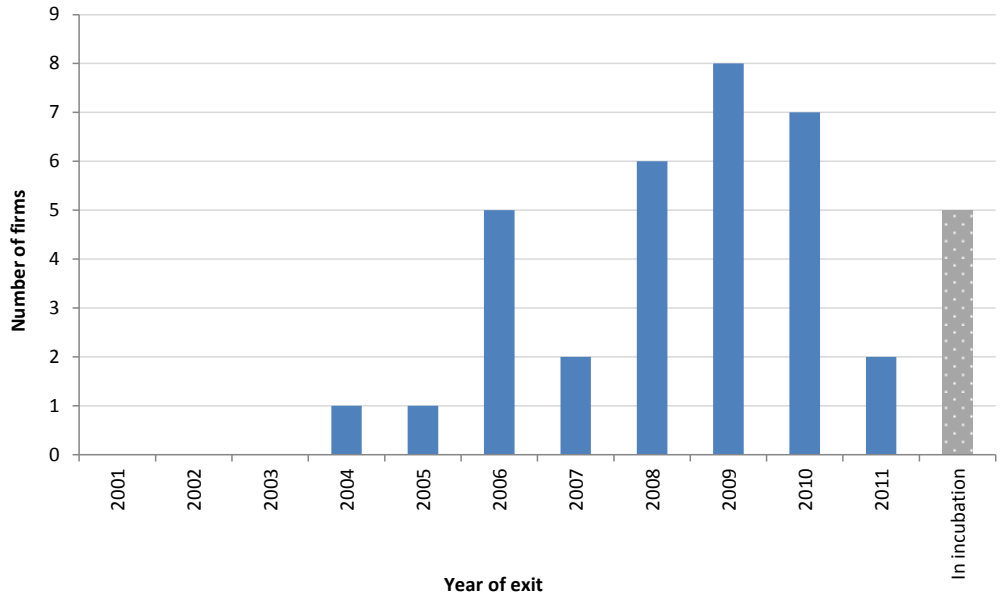
Of the twelve high growth firms based on turnover, seven were in the ICT sector. The specialised manufacturing had four high growth firms and biotechnology/agritechnology & biosecurity had one high growth firm based on turnover. Four of the nine high growth firms based on employment were in the ICT sector while three were in specialised manufacturing sector and two in biotechnology/agritechnology & biosecurity.

Old NZTE definition (2001-2008)

In terms of the old NZTE definition of a high growth firm, there were no firms that met the criteria of doubling FTEs during incubation, generating revenue of $0.5 million within two years of entry, raising external capital of $0.5 million during incubation *and* generating revenue of $5 million within three years of exit. Considering the criteria separately, 13 firms doubled their FTEs during incubation, 11 firms generated revenue of $0.5 million within two years of entry into the incubator, 18 firms raised external capital of $0.5 million during incubation and four firms generated revenue of $5 million or more within three years of exit. One firm met three of the four criteria. This firm did not meet the criteria of generating revenue of $5 million within three years of exit. There were five firms that met two of the four criteria.

Figure 7 shows the year of exit of alumni firms (blue) and five firms still resident (grey) in incubators in 2012 which achieved any one of the four criteria in the old NZTE high-growth definition. This definition has advantages in that it measures growth rather than just size. Figure 7 indicates that there have been more high-growth firms in recent years.

Figure 7: High growth alumni (blue) firms and resident (grey) firms by year of exit.
Achievement of any one of the old NZTE criteria for high growth was counted as high-growth.



Source: NZTE firm performance data, August 2012.

If the old definition of high-growth has any validity the performance of incubators, as measured by their ability to produce potential-high-growth firms, has improved in the last five or so years.

From 2009 to 2011 incubators have identified 65 businesses that meet the current NZTE/MED definition of high-growth firms, Table 17. The number of firms reporting their annual revenue has increased from 67% of the firms exiting incubation in 2009 still trading reporting their annual revenue to 80% of firms still trading reporting annual revenue that exited in 2011. Eighty six per cent of high growth firms exiting in 2009 reported annual revenue however only 78% of firms leaving incubation in 2011 reported their annual revenue. The number of high growth firms reporting their export revenue was lower, ranging between 48%

in 2011 to 79% in 2009. In comparison, a larger percentage of other firms reported their annual revenue ranging from 40% of those exiting in 2009 to 86% exiting in 2011. The percentage of other firms reporting their export revenue was lower than the high growth firms except for firms exiting in 2011.

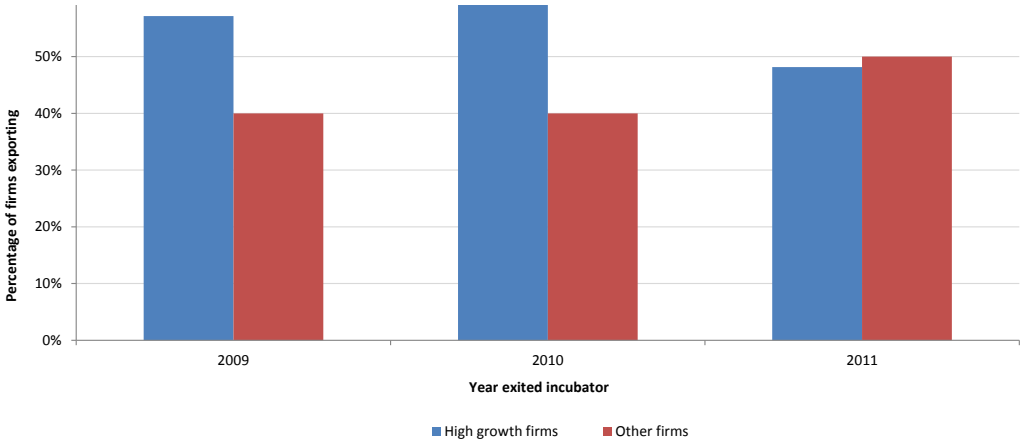
Table 15: Performance reporting of businesses that exited incubators in 2009, 2010 and 2011.

		Number of firms	Firms still trading	Firms still trading reporting annual revenue	Firms still trading reporting export revenue
2009	High-growth exits	14	14	12	11
	Other exits	17	10	4	4
2010	High-growth exits	22	21	17	12
	Other exits	28	15	8	6
2011	High-growth exits	29	27	21	13
	Other exits	36	14	12	7

Source: NZTE firm performance measures, August 2012.

Figure 9 shows that over 45% of the exits between 2009 and 2011 named as potential-high-growth businesses, for which data were available, were exporting. Calculating growth in annual revenue between 2009 and 2010, Table 16, shows that 66% of the firms labelled as potential-high-growth firms, and for which data were available, did experience some growth in revenue in the subsequent twelve months. Seventy eight per cent of high growth firms exiting incubation in 2010 experienced some growth in revenue between 2010 and 2011. A smaller percentage of 'other' firms are exporting and of those firms exiting in 2010 few experienced any growth between 2010 and 2011. Care is required in interpreting this due to the poor data.

Figure 8: Percentage of businesses that exited incubators in 2009, 2010 and 2011 that exported.



Source: NZTE firm performance measures, August 2012.

Table 16: Percentage growth in annual revenue for businesses exiting incubation in 2009 and 2010.

	2009		2010	
	High growth firms	Other firms	High growth firms	Other firms
	Percentage (n=9)	Percentage (n=3)	Percentage (n=14)	Percentage (n=4)
Negative growth	33%	33%	14%	75%
0	0%	0%	7%	0%
1-50	22%	33%	43%	0%
51-100	33%	0%	21%	0%
100+	11%	33%	14%	25%
Total	100%	100%	100%	100%

Source: NZTE firm performance measures, August 2012.

By any of these definitions there have not been a large number of high-growth exits from the incubators. At most, in 2010 and 2011, 45% of exiting firms were identified as high-growth-potential firms.

Finding

Incubators have had a number of high-growth exits. While the definition of potential high-growth businesses may be improved, by any definition there is room for increasing the number of potential high-growth exits.

There is some evidence that incubators are improving in the number of (potential) high-growth exits.

What is a typical performance for high-growth firms in New Zealand? What does a typical New Zealand high-growth firm look like? While some data exists[10] it is for all high-growth SMEs. This is not a valid comparison as most incubated firms are young, formed while in incubation, and only represent a small number of industry sectors.

Internationally, there is no consistently accepted way of measuring high or fast growth. It is straightforward to identify a growth criterion, e.g. sales, employment or profit. However, over what time period should the growth criterion be measured?

In some sectors business growth only appears after a long time span. In biotechnology or pharmaceuticals, the time it takes to generate revenue, i.e. the time between research or new IP to exploitation and commercialisation, can take a decade. If the period of observation in which growth is measured is chosen too short, growth is not allowed to emerge. In other sectors, business growth can materialise much quicker and a longer time period would blur the real growth pattern. No measure would appear ideal for all circumstances. It depends on the time over which growth is measured, whether absolute or relative growth is of interest, and whether growth by acquisition and merger is seen as growth.

Given these limitations MBIE is undertaking work using Statistics New Zealand's Integrated Data Infrastructure to provide more information about characteristics of high-growth firms. We are confident that the full population data will provide a comprehensive picture of the status and characteristics of high-growth businesses in New Zealand. However, there is probably no such thing as a 'typical' high-growth business.

[10] SMEs in New Zealand: Structure and Dynamics 2011, Ministry of Economic Development

The data analysis will identify the number of fast-growing businesses (e.g. the top 5per cent and the top 1 per cent of all businesses) and the annual average growth in different categories, e.g. absolute and relative sales growth, absolute and relative employment growth, and by different industrial sectors and class sizes.

Further analysis will attempt to cluster high growth businesses into different patterns:

- Role of mergers and acquisitions: Growth is achieved by acquiring other businesses or organic growth.
- Sustained high growth: Businesses exhibit high absolute growth both in sales and/or employment.
- Volatility in growth: Businesses have a very strong but erratic development of both sales and employment (even negative for one or two years).
- Base effect: The population of high-growth business could be capped to start with a certain threshold, e.g. at least $100.000 sales per year or 1 employee.

Recommendation
A common view of what constitutes a high-growth firm should be developed for New Zealand. This is needed to focus incubators, and related initiatives, on the leading opportunities as distinct from entrepreneurial ideas. It needs to be acknowledged that ex anti 'high-growth-potential' is tricky to identify. The definition should include quantitative metrics which provide realistic guidelines for New Zealand performance. This will be addressed by part 2 of this evaluation.

Identifying high-growth potential businesses is problematic. This is because high growth businesses are both very exceptional, a tiny percent of businesses, and very unlikely to sustain these growth rates (OECDa 2010, Storey and Greene, 2010).

The overseas evidence is also weak as to whether there are commonly used business strategies that contribute to high-growth. The common factors that statistical analysis shows as most directly influencing high-growth appear to be factors other than entrepreneurship; i.e. location and business demographics-age and sector, (Greene, 2002). 'Sun-rise' sectors such as IT applications have spawned high-growth start-ups; although most have been short-lived. (Storey and Greene, 2010)

Clearly management capability is also vital. Statistically robust research in New Zealand has, not surprisingly, shown that management practices are an important factor in explaining business productivity growth, as is business form and ownership (Green and Agarwal, 2011).

While incubators may aim to produce high-growth companies they cannot control a number of factors for example markets, quality of entrepreneurs, availability of capital. Success, or spectacular success, will require many factors coming together and this has only happened in a small number of instances so far. We need a better understanding of how often it occurs in New Zealand to determine what factors might be able to influence it to occur more frequently. At this point we do not have good measures of the additionality of the incubator support programme.

Recommendation
The study of additionality of the incubator programme being undertaken in Statistics New Zealand Integrated Data Infrastructure be completed and reported by part 2 of this evaluation. The study would compare the performance of incubated firms with comparable firms, matching across a number of variables such as age, size, sector, growth characteristics.

8.7 NZTE Performance measures

NZTE reports two performance measures to MBIE: the number of incubators funded and the number of exits achieved by the incubator network that meet the high-growth standard. The 2011/12 output agreement describes a potential-high-growth business as one leaving the incubator with the following characteristics: is globally ambitious, has a well-thought out and executable business plan; has a thorough understanding of their target market; has a strong and experienced management team; has good independent governance.

Table 17: Performance measures for the Incubator Support Programme

	2009/10	2010/11	2011/12
Performance standard	8	8	8
Number of incubators funded	7	7	8
Performance standard	10	20-25	15
Number of high-growth exits	14	22	29

Source: NZTE, August 2012.

With the inclusion of SODA in the list of funded incubators in 2011/12, NZTE have eight incubators receiving funding. While it is important that incubation be accessible as widely as possible, it should not be at the expense of the government propping up poorly performing incubators. As discussed in Chapter 7.2, the viability of incubators in regional areas is dependent on maximising deal-flow. In some areas this will involve working relationships with PROs for at least a contribution to the incubator deal-flow.

When an incubator is set up, and when there are changes in incubator structure which significantly impact operation, then consideration should be given to funding in an annual cycle until a threshold deal-flow is achieved. Table 4 indicates that this threshold is probably about 10 client firms although this may vary depending on the incubator's business model.

The current guidelines incorporate processes for assessing incubators and note that each incubator must achieve a minimum score of 6.5 (out of 10) in an assessment of incubation practices conducted by NZTE prior to the funding round. This combined with the annual assessment of capability, described on page 26, provides a process for dealing with non-performing incubators.

Incubators are better able to plan and implement activities if they have a longer-term funding mechanism. However, in the case of newly established incubators or incubators that are encountering difficulties, a shorter reporting and funding cycle is more appropriate, with a view to transition to the main funding regime. This in turn depends on NZTE having in place a robust set of key performance indicators and reporting processes so that the transition can be adequately managed.

Operational suggestion:
Guidelines need to be implemented to recommend:

- which incubators should receive multi-year funding;
- which incubators should remain on annual funding cycles;
- and how an incubator could transition from one category to the other.

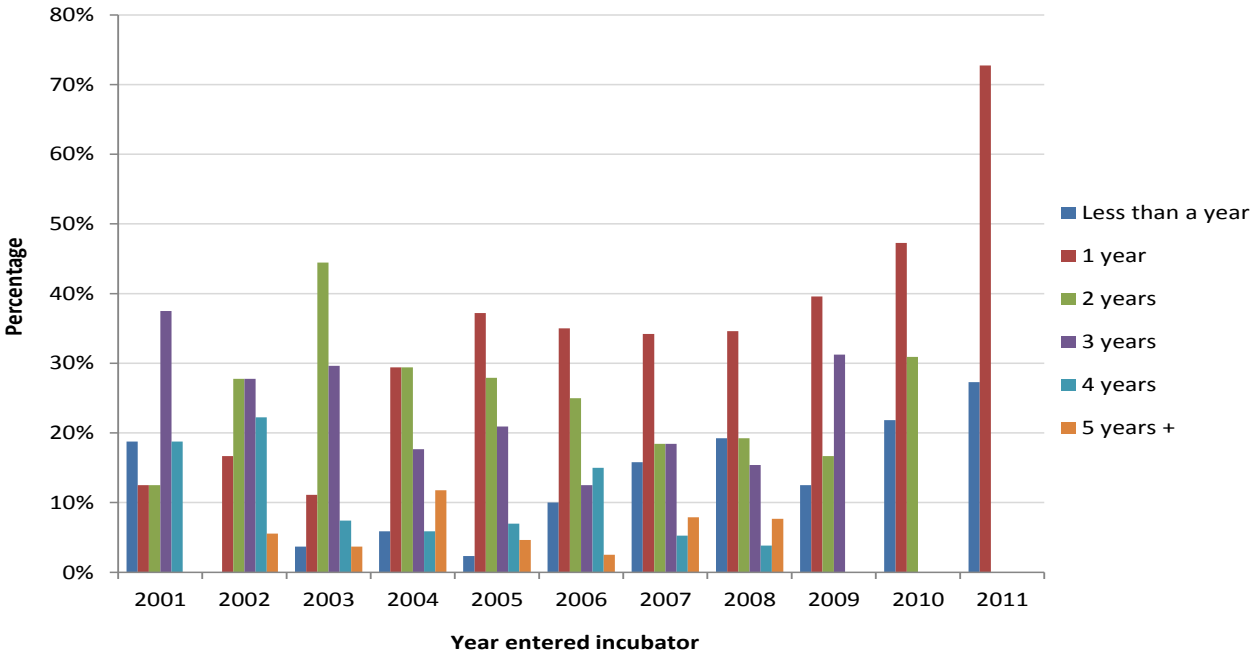
While the incubators claim to have achieved the target number of potential-high-growth exits the current definition of potential-high-growth exit is not a well-defined metric. A more measurable definition is desirable.

8.8 Incubator performance measures

NZTE contracts for recipients of incubator grants include: quarterly incubator performance reports; annual graduate company performance data; annual updating of business plans; annual assessment reviews of incubation activities; and three to five key performance indicators and other deliverables. The latter are determined in consultation with individual incubators and address areas requiring individual development. Typical key performance indicators have included: numbers of new firms in incubation, nominations for 2011 Deloitte Rising Star Awards, numbers of exits, number of capital-raising deals, reports on specific aspects of incubator operations.

Through these key performance indicators NZTE can influence incubator development. For example the length of time firms are resident in an incubator has decreased over the last decade and this is possibly partly due to NZTE encouraging firm exits, see Figure 9. Of those firms entering incubation in 2001 the largest percentage exited after 3 years. Between 2005 and 2007 the largest percentage of firms exited the incubator after 1 year. It appears this trend is continuing after 2007.

Figure 9: Length of stay in incubator by year entered incubator.



Source: Incubator firm performance data, NZTE 2012.

The number of firms resident in incubators has increased. Some incubators have been able to make economies from increasing scale of operations. Table 4, Section 6.1, shows that Creative HQ and Icehouse have significantly increased the number of resident firms since 2010. Other incubators have different forms of engagement and cannot scale their operations in the same way.

While NZTE can influence incubator behaviour through agreeing key performance measures, the incubators do have other stakeholders who may have somewhat different goals to NZTE. While high-growth potential businesses may be the most desirable outcome from MBIE policy perspective, broader economic development goals, e.g. simply more viable firms in specific sectors, may achieve goals for Economic Development Agencies.

NZTE funds, on average, 50% of the incubators budget. Incubators are owned by local organisations. It is the incubators responsibility to balance all stakeholder outcomes and requirements.

9. Wider policy questions

9.1 Does the programme still have a valid rationale?

This is examined at two levels:

1. Do business incubators make a significant contribution to the government policy objective of business growth? We have examined the contribution of incubators to high-growth businesses. This report describes the contribution and gives some indication of performance. The net effects (additionality) of such performance are currently being measured through econometric analysis and will be reported later in the year.

2. Do incubators need government support? We have examined the ownership structure and financial performance of incubators. The eight incubators in New Zealand operate under different models reflecting their history, operating environment and ownership. None are owned by central government. All incubators are funded from multiple sources, including cost-recovery from incubated firms. Consistent with overseas experience it is not possible for incubators to operate without government funding.

The evaluation reaches an interim conclusion (subject to the further econometric analysis currently underway) that the programme does have a valid rationale.

9.2 Is financial self-sustainability possible and likely?

While this is not a question that evaluation can readily address the evaluation evidence is insightful. It shows that the funded incubators have a healthy through-put of client businesses. Over time they will build up a portfolio of shareholding in alumni firms. Some percentage of this equity holding may start to generate a source of income. However, given the sectors in which the incubators operate and their size, they are very likely to need government support for the foreseeable future.

While individual incubators earn up to 50% of their operating expenses from incubation activities, the average income from incubation activities is 21%.

Discussing the issue of self-sustainability with both the incubators and other stakeholders, many held the opinion that financial self-sustainability was possible but it would result in movement to less riskier areas of operation. To remain operating in the high-risk, early start-up area of operation continued government support was necessary. This has prompted a change in policy rationale, see Section 4.2.

In this chapter we also examine other sources of funding. The client businesses themselves (not the incubators) receive sizeable MSI funding. These arrangements currently operate outside of incubator policy. MSI business assistance schemes allow for any NZ business to apply and clearly incubator client businesses meet the criteria.

Our evaluation of technology grants[11] to businesses showed that grants to small businesses and businesses new to R&D are adding net value. Such businesses may include those going through the incubator programme.

We can conclude that MSI technology grant funding is a valuable complement to incubator support. It should remain separate so that businesses are forced to justify an application on their own merit.

[11] Morris M & Herrmann O 2012, Impacts of Direct Financial Support for R&D.

Firms also benefit from government support of angel investment through the Seed Co-Investment Fund (SCIF). Table 18 shows the number of incubator alumni and resident firms receiving support from MSI and SCIF funding. Approximately two-thirds, 306 of the 479 incubator alumni and resident firms received neither type of funding. Table 18 indicates that one third of the incubator residents and alumni received MSI funding. Half of the firms identified as high-growth during 2009 – 2011 interval received either MSI and/or SCIF funding.

Table 18: Incubator alumni and resident firms receiving MSI and SCIF funding. 479 firms in incubation and alumni are included.

	MSI funding		No MSI funding	
	No. of firms	% of firms	No. of firms	% of firms
SCIF funding	15	9%	15	5%
No SCIF funding	143	91%	306	95%
Total by MSI funding	**158**	**100%**	**321**	**100%**

Source: Data from MSI and VIF, complied by the MED Evaluation group.

9.3 MSI funding of Incubated firms

MSI manually matched firms on a list of incubated companies to their database. Of a list of 469 firms who were or had been in incubators 158 had received MSI funding. This includes all firms who have been in incubators from the years 2001 to 2011. MSI was formed in 2011 by the amalgamation of previous science organisations and the term 'MSI funding' will be used here to describe both the recent MSI and earlier Foundation for Research, Science and Technology,(FRST), funding of incubated firms.

Of those firms who received MSI funding, slightly more than half (86) received grants of less than $50,000 and 73, received grants of greater than $50,000. Table 19 shows the split on size of grant, and whether it was before incubation, during incubation or after incubation. There were a number of grants for which the timing was uncertain and these have been separated out as 'other' timing. Note that this is funding over an interval of 11 years.

Table 19: MSI funding of incubated firms during the 11 years, 2001-2011. The total number of firms is less than the sum of the previous columns as firms can receive more than one grant, e.g. both during and after incubation. Timing of 'other' funding was not well defined.

	MSI $ before incubation	MSI $ during incubation	MSI $ post incubation	Other	Total
	$1,958,130	**$11,792,797**	**$7,854,873**	**$2,315,201**	**$23,921,000**
Total N grants	31	100	47	22	158
N<10k	6	21	6	4	28
10k<N<50k	14	31	17	9	57
50k<N<100k	7	18	9	2	23
100<N<500k	4	23	12	7	36
n>500k	0	7	3	0	14

Source: MSI, 2012.

Roughly half the MSI funding has occurred during incubation, and most of the other funding after incubation. The funding over time and by incubator shows that firms in all incubators have received MSI funding.

The average grant size is larger prior to 2008. There is a suggestion of a decline in funding for incubated firms post 2007. In 2008 and 2010 MSI funding for incubated firms was definitely less, 2009 and 2011 the decline is not so obvious.

There have been 23 companies, who have been resident in an incubator, and have received more than $300,000 from MSI over the years 2001 to 2011. At least eight of these 23 firms, approximately 33%, received MSI funding prior to incubation. MSI funding may be useful as an indicator of 'IP-based' incubation rather than 'entrepreneurial' incubation.

9.4 MSI funding of incubators and commercialisation offices.

As well as funding firms in incubators MSI has, in the last three years, funded incubators for specific purposes. Funding has included: funding for interns (for BCC and IceHouse); funding as local partners in the Regional Partner Programme (BCC solely contracted by Vision Manawatu); and Facilitation Fund (powerHouse). Of these funds only the Regional Partner Programme still exists although powerHouse's funding through the Facilitation Fund will continue until December 2012.

As well as funding incubators MSI also funds commercialisation offices through the Pre-Seed Accelerator Fund, PSAF, and the National Network of Commercialisation Centres, NNCC.

PSAF was developed in 2003 and was intended to stimulate and attract investor interest. The policy sought to:

- maximize the benefits to New Zealand from the publicly funded research
- improve the commercial capability and skills of public sector providers, and
- promote linkages between the public and private providers.

PSAF is designed to fund commercialisation testing and development arising from publicly-funded research. It has been in existence for a decade or more. While PSAF grants used to be for three years, since 2010 there have been four, six, and twelve month roll-overs of existing contracts.

NNCC was developed in 2011 to encourage collaboration and commercialisation across universities and CRIs. While some organisations have received funding, only short-term allocations have been made.

We asked the six university commercialisation offices we spoke to, "What is the most effective way for central government to intervene in the entrepreneurial innovation ecosystem?" and they unanimously said 'through continuation of the PSAF fund and/or providing longer-term PSAF funding.' The roll-overs of PSAF funding make it difficult to undertake commercialisation projects as their time-frames are considerably longer than the funding time-frames.

Uncertainty in these funds is complicating changes occurring in the sector. These changes include:

- government structure (MSI formed through the amalgamation of MoRST and FRST, and now amalgamation of MSI and MED into MBIE);
- rationalisation of roles;
- increased collaboration and co-operation between organisations;
- and better role definitions.

Changes will continue for some time with the creation of MBIE and subsequent rationalisation of business-facing services. It is important that the uncertainty this is introducing for organisations such as incubators be minimized. This was identified as an issue at the May 2012 NZTE incubator workshop. Incubators have already had one roll-over of funding. The arguments for long-term commitment to incubators were presented at some length in the 2008 evaluation and they are still valid in 2012.

Recommendation

The Incubator Support Program should return to its three-year funding cycle in 2013.

- The Incubator Support Programme is delivering effective support for funded incubators. The funded incubators offer a range of services to support potentially high-growth firms in New Zealand. Some of the funded incubators are more effective than others. This reflects their capabilities and the regional entrepreneurial environments in which they operate.
- NZTE has managed it's funding to encourage adoption of best practice and incubation of high-growth businesses.
- Incubators are a key component of the New Zealand entrepreneurial environment.

MSI have indicated an interest in developing an Israeli-style incubation programme. Key features of such a programme would be large grants covering a significant portion of incubated businesses costs. These costs are repaid via royalties, contingent on company survival. (See text box in Literature Review.) This evaluation has no evidence on whether such a scheme would be practical for New Zealand.

We recommend that the current support for incubators be continued. Options like an Isreali investment programme could be seen as a tool for high-performing incubators within the current programme.

Any new scheme should be piloted, preferably with counterfactuals for comparison, in conjunction with the current arrangements. MSI funding for a few select individual firms meeting MSI criteria should not impact on the wider incubator programme. The desirability of more widespread adoption of the proposed model could be addressed following evaluation of the pilot study.

A complete re-organisation of the incubator programme would be demoralising. Some New Zealand incubators are considered world class. While there is room for improvement, the success of the programme to date should be encouraged and continued.

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Appendix 1: Incubator Summaries

The following are summaries of the eight incubators currently funded by the NZTE Incubator Support Programme. The summaries are arranged alphabetically. They have sections on Context and History, Shareholders; Source of finance; Firm and Employee Statistics; Points of Difference.

In such a short summary it can be difficult to provide full detailed description of services. Our aim has been to highlight distinctions and points of difference while maintaining sufficient information for comparisons to be made.

AUT Incubator

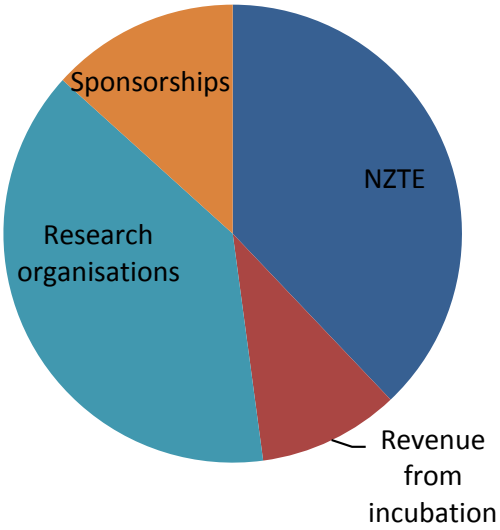
Context and History:

The AUT Business Innovation Centre (BIC) was established in 2001. In 2010 they moved to the Manukau campus of AUT. In 2012 the combined operations of the BIC were merged with AUT's commercialisation team (AUT Enterprises Ltd. AUTEL) and are now working together as a unified commercialisation team serving the needs of both external entrepreneurs and internal IP from AUT's own research. The incubator previously had its own board, but with the merger the incubator board was repurposed as an advisory panel. The governance of AUTEL (including the incubator) is overseen by the existing AUTEL board that was previously used solely for the commercialisation team.

Shareholders:

AUTEL is a wholly owned subsidiary of the Auckland University of Technology.

Finances: At 30/06/2012



Firm and Employee Statistics: At 30/06/2012

Firms	Number
Pre-incubation firm	5
Full incubation firm	5
Post incubation firm (still resident)	2
Anchor tenants	1
Alumni firms	48
Alumni firms still trading	28
Employees	
Number of incubator staff	4.5
Incubator staff ftes	4
Executives in residence	8
Other advisors	9
Other mentors	8
Other consultants	8

Points of difference:

1. **Integration of Commercialisation and Incubation**

The AUT incubator is very closely connected with AUT University, and is now integrated with the AUT commercialisation team (the University's technology transfer office - TTO). Ventures that originate from AUT's own research and IP are initially handled by the TTO if they believe the technology is best to be licensed out or further developed in partnership with industry. Where there is an opportunity to spin-out this IP the incubator provides assistance/incubation and potentially a place of residence for the new company. Additionally the incubator's suite of Venture Management Services (VMS) can be plugged in to assist in the commercialisation steps as relevant/required by the TTO. AUT incubator would like a 50/50 balance between technology and entrepreneur driven ventures, but currently most are entrepreneur-driven ventures sourced from the community rather than AUT. The close connection between the two teams creates a unique dynamic that does not exist with any other incubator in NZ. This enables the incubator to leverage operational synergies and access greater scale of capabilities, networks and customer interactions.

2. **New "Venture Management Services" Model (VMS)**

‘Venture Management Services’ is a client specific individually tailored fee-for-service offering from the BIC. This is a new and unique offering to that of other incubators across New Zealand. The VMS offering encompassing but not limited to; market validation, business strategy and development, technology due diligence, IP assessment, technology development, business growth/ support/ export expertise/ export revenue generation.

This offering is tailored to accommodate any company from entrepreneur-driven or established SMEs. The BIC incubator first assesses the business needs of the new venture or innovation project and then plugs in the required services to better enable the success of the venture. The BIC is an active member of New Zealand’s innovation landscape, and we are good at leveraging our networks, relationships and ability to navigate the landscape to deliver successful outcomes for our clients.

The incubator has delivered a soft launch of the VMS product to entrepreneurs and SMEs and the market has responded with a high rate of acceptance and up-take of the services. We believe that VMS is now a market-validated service offering that provides incubation via VMS, a tool that accelerates growth and delivers higher quality of outcomes.

VMS sits alongside/supports the BIC’s incubation program providing a robust mechanism for the following three stages of incubation 1: Pre-incubation (VMS stage 1 Due diligence), technology screening, market validation, due diligence 2: Full incubation (VMS stage 2 Start Up phase 1) and 3: Post Incubation (VMS stage 3 Company growth).

3. South Auckland Connection

The AUT BIC is geographically located in Manukau, Auckland South. Our strategy is to leverage our regional presence to engage directly with the extensive core business community and Council representatives residing in Manukau. This includes our historical engagement with the Manukau Economic Development Agency (now renamed under the ATEED banner), the Auckland Council agencies such as ATEED Regional R&D Managers, the Food Bowl, Health Innovation Hub and Manukau Institute of Technology. Manukau plays a significant role within the Auckland region as an area with significant growth in the production and manufacturing sector. Our regional presence in close proximity to this sector enhances our ability to engage with this important sector for collaborative ventures as well as a potential source of deal flow for our Venture Management Services.

4. University capability and expertise alignment

The AUT incubator will take in companies that have technologies that align with the capabilities and expertise of the university. These include high tech manufacturing, environmental/resource efficiency based technologies, and health sciences.

BCC

Context and History:

The Bio Commerce Centre Limited is located at 21 Diary Farm Road, Palmerston North in the Fitzherbert Science Centre along with Fonterra Research and Development, AgResearch, and other smaller Agriscience businesses. Massey University Palmerston North campus is across the road. BCC has a formalised agreement with Massey University regarding commercialisation of IP.

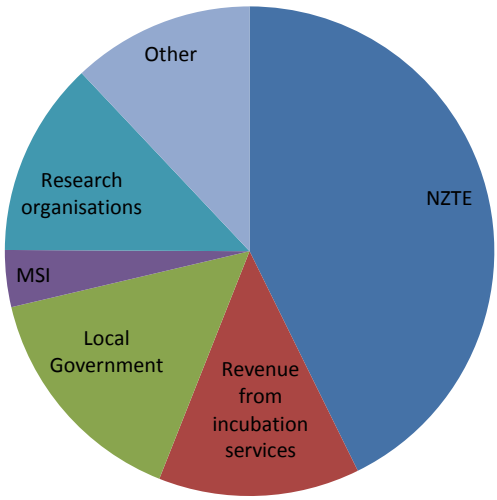
No significant changes have occurred since establishment in 2005.

Shareholders:

The incubator is wholly owned by Manawatu Biocommerce Trust (and managed by limited liability company - The Bio Commerce Centre Limited). The shareholding Trust includes representatives from iwi, local government, research organisations and businesses in the region. The Trust appoints the BCC board.

Key stakeholders in the BCC Trust include Massey University, Manawatu Investment Group, AgResearch, Palmerston North City Council and investors from the surrounding business community.

Finances: At 30/06/2012



Firm and Employee Statistics: At 30/06/2012

Firms	Number
Pre-incubation firm	5
Full incubation firm	9
Post incubation firm (still resident)	1
Anchor tenants	1
Alumni firms	10
Alumni firms still trading	9
Employees	
Number of incubator staff	10
Incubator staff ftes	7.5
Executives in residence	0
Other advisors	0
Other mentors	0
Other consultants	0

Note: 'Other' in the finance graph includes contra fee for joint projects on behalf of Fonterra, AgResearch, Riddet Institute and Massey University.

Points of difference:

BCC model is an investor-based model facilitating the commercialisation of 'deep IP'. It is developing a reputation for being able to do this and is starting to see companies from outside the immediate region (eg Hawkes Bay, Auckland) seeking advice.

BCC is located in Palmerston North and hence works in regional NZ.

BCC has a culture of taking responsibility; be brave; stay edgy; show leadership in ecosystem.

Creative HQ

Context and History:

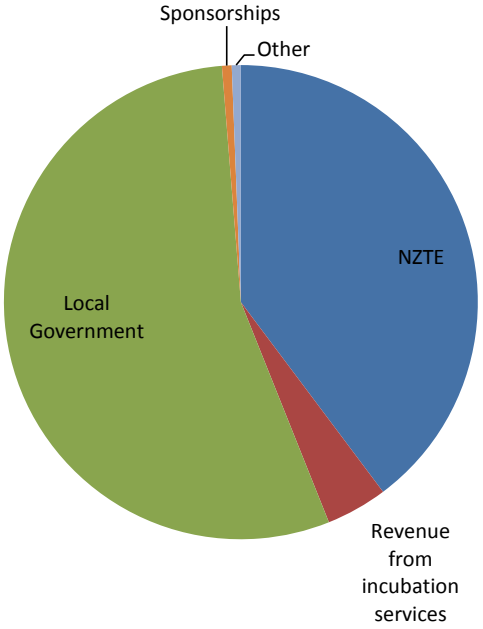
Creative HQ started through the Economic Development Organisation, Grow Wellington. In 2011 it became a separate organisation with its own board.

While historically Creative HQ has focused on ICT and creative and services sector, 60% of (firms+alumni) are in ICT sector and 30% in creative and services sector, in the last 2 years Creative HQ has started incubating firms in specialised manufacturing (1), clean technology (2), and biotechnology (1). This reflects engagement with local public research providers.

Shareholders:

Currently Grow Wellington is the only shareholder. Creative HQ is looking to expand and include other shareholders in near future.

Finances: At 30/06/2012



Firm and Employee Statistics: At 30/06/2012

Firms	Number
Pre-incubation firm	21
Full incubation firm	19
Post incubation firm (still resident)	1
Anchor tenants	0
Alumni firms	50
Alumni firms still trading	35
Employees	
Number of incubator staff	12
Incubator staff ftes	9.2
Executives in residence	2
Other advisors	13
Other mentors	30
Other consultants	0

Points of difference:

Creative HQ sees Wellington as the New Zealand leader in ICT startups.

They have a large pipeline of potential entrants plus a high hurdle to enter the incubator. There is a clear distinction in their portfolio between entrepreneurial ventures (e.g. IT firms) and research based firms, with increased interest in but less experience with the latter. They are developing relationships with all regional research providers with contracts for services secured with Victoria University of Wellington, the MacDiarmid Institute and Return on Science.

Creative HQ has a dedicated team of business strategists who provide the majority of guidance and support for incubation ventures. In addition, they are focussing on building a substantial pool of outside expertise and reputation that form a core of the service offering. This is done using goodwill to attract high quality and low prices. It ranges from accountants and lawyers to product development people and successful business people.

Creative HQ have a set of defined services that are clearly expected to add value (irrespective of how good the firm is in the first place) and which are tailored to the specific needs of the business. This is done primarily through the Creative HQ strategic advisors.

Creative HQ has invested heavily in building out an effective and successful incubation programme supported by a range of bespoke templates, processes and systems. This is intended to enable the incubator to scale and provide a consistently high level of services to selected companies. CHQ is continually updating, adding and refining these and has made them available to other incubators.

Creative HQ is launching New Zealand's first digital accelerator which will run its first class in February 2013. This is a short term mentorship driven programme for globally ambitious digital companies.

Ecentre

Context and History:

The ecentre started as a division of Massey University in 2001. It was made a separate company with an independent board in 2006. Massey has recently adopted a policy to outsource commercialisation and this is largely undertaken by the ecentre and BCC (Palmerston North). The ecentre is located in the Bob Tindall Building on Massey University Campus in Auckland. 'Establishment was driven by Prof. Chris Kirk and Prof Ian Watson from Massey University, together with support from the North Shore City Council and the Tindall Foundation. The idea was to create a place where innovative start-up companies can access expert advice from on-site experts, subject matter experts from the university and mentors from the local region' (www.ecentre.org.nz).

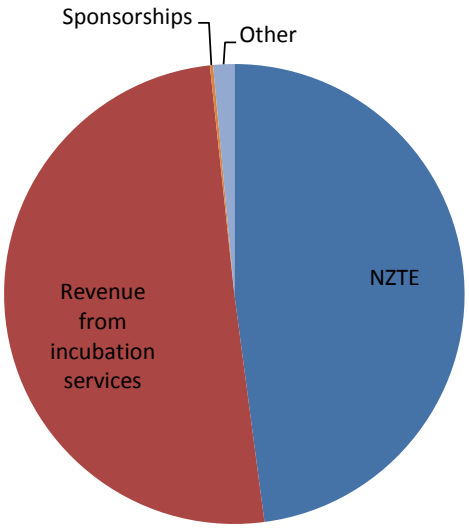
ecentre has a focus on technology firms, particularly ICT, electronics, design and software. ecentre has a relationship with CMC India (a TATA subsidiary) which provides global intelligence and market assessment. This has been made accessible to other incubators and technology companies across New Zealand.

Located in Albany at the centre of the ICT corridor from Takapuna to Silverdale and serving entrepreneurs from North and West Auckland plus Northland.

Shareholders:

ecentre is 100% owned by Massey University through its commercial holdings arm Massey Ventures Ltd.

Finances: At 30/06/2012



Firm and Employee Statistics: At 30/06/2012

Firms	Number
Pre-incubation firm	5
Full incubation firm	12
Post incubation firm (still resident)	7
Anchor tenants	1
Alumni firms	34
Alumni firms still trading	25
Employees	
Number of incubator staff	6.5
Incubator staff ftes	4.5
Executives in residence	2
Other advisors	Advisory board
Other mentors	6
Other consultants	4

Points of difference:

1. Focus on personal and capability development of entrepreneurs not on the business idea. ecentre has a goal to develop entrepreneurs for the future prosperity of New Zealand and is committed to working with them over the longer term.

2. Focus on a customer development process not on a product development process. This focus permeates everything we do. We believe in finding market fit before final development through a rigorous process of validation and agile development. We help

start-ups create and validate a unique business model that is sustainable, scalable and successful.

3. ecentre is working with Awataha Marae and other Maori organisations to provide an entrepreneurship programme for Maori and other cultures that celebrates indigenous innovation.

4. ecentre has a strong partnership with Massey University which extends the ecentre's network, knowledge base, pool of expertise and source of entrepreneurs.

5. ecentre has a unique partnership with CMC (India) which enables new products to be effectively evaluated in global markets at low risk and low cost.

6. Focus on technology based companies that use software, ICT, electronics as enabling technologies for sectors such as health, education, manufacturing and retail.

The Icehouse

Context and History:

The Icehouse has two streams of business, programmes for startups (~40% of business) and programmes for SMEs (~60% of business).

Startup programmes include the student challenges/competitions, university/CRI engagements, incubation, funding provision including seed funding, angel funding via the Ice Angels network and growth funding via the Entrepreneurs Challenge, and internationalisation via a series of international partnerships and networks. SME programmes include a series of learning and development programmes for owner managers and their staff, coaching, and customised programme development. Both sets of programmes share networks and contribute to the international success of New Zealand firms.

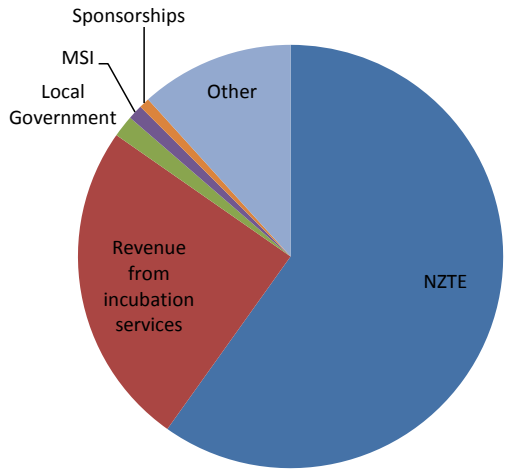
The Icehouse incubator has a balance between a scientific approach and an artistic approach and the balance changes over time. The Icehouse supports its culture with a system to ensure repeatable outcomes. The prime purpose is to assist companies and all staff need to spend time with each company.

Other than an increase in scale there has been no significant staff or structural changes in that last three of four years. It is proposed that the incubator will move its physical presence to a new facility in the near future.

Shareholders:

The Icehouse is owned by non-profit trust established by the University of Auckland Business School and corporate partners: Microsoft, HP, BNZ, Boston Consulting Group, and Telecom.

Finances: At 30/06/2012



Firm and Employee Statistics: At 30/06/2012

Firms	Number
Pre-incubation firm	21
Full incubation firm	22
Post incubation firm (still resident)	6
Anchor tenants	2
Alumni firms	119
Alumni firms still trading	72
Employees	
Number of incubator staff	10
Incubator staff ftes	22
Executives in residence	20
Other advisors	50
Other mentors	Large network
Other consultants	25

Points of difference:

Internationalization capability. The Icehouse doesn't accept firms without an international perspective/ambition. 98% of alumni revenue is export oriented. The Icehouse internationalisation focus is on Australia, USA and Asia with a particular focus on developing deeper networks in the following countries where it is relatively more difficult for companies to establish their operations - India, Japan, China and Singapore. The Icehouse has developed relationships with incubators, highly respected individuals, and other partner organisations offshore.

Network. The Icehouse network is strong. They are approached on average 30 times per month by people wanting to work with their startups. They have also established a significant and developing network in global markets.

Partnering/mentoring. The Icehouse has established significant corporate networks in New Zealand that assist their startups with market validation, trialling and eventually becoming early customers. This is a signification value proposition for the startups.

Access to funding. The funding ecosystem with seed, angel and growth funding is one of the most valued and critical aspects to the value proposition for startup companies and not only for those that are associated with The Icehouse. It has taken time to develop, only in 2012 has it become systematic across each of the areas.

Brand/reputation. The market positioning of the organisation is extensive and seems to be as a result of the wider set of activities in the market for both startups and SMEs.

Scale. The Icehouse has access to better resources and a bigger team. It has a big engine behind its programmes. This scale is beginning to position The Icehouse as an attractive career option for people interested in entrepreneurship and internationalisation. The internship programme it is running is an example of the contribution that the scale can make with graduate students getting significant exposure and opportunities for ongoing employment post their internship. Another benefit of scale is the opportunity to create leverage on an New Zealand Inc basis. The Icehouse regularly brings international experts such as Bill Payne, Rob Adams etc to New Zealand and shares them across the regions for the benefit of all. It also enables activities such as the New Zealand Angel Investment Showcases which provide opportunities for startups across New Zealand.

powerHouse

Context and History:

In 2008, powerHouse began operating a model that combines an incubator with a seed investment fund. The model is designed to suit early-stage investing in the local environment. powerHouse emerged from Canterbury Innovation Incubator (Cii), an international award-winning high-tech business incubator established in 2001. Since then it has built a team of specialists in investment, intellectual property rights, technology screening and business design, mentoring, strategy and finance, along with a network of angel investors and industry specialists.

powerHouse runs an incubator in Ilam and has satellite sites at the University of Canterbury and Lincoln University. It has formal commercialisation agreements with both these universities.

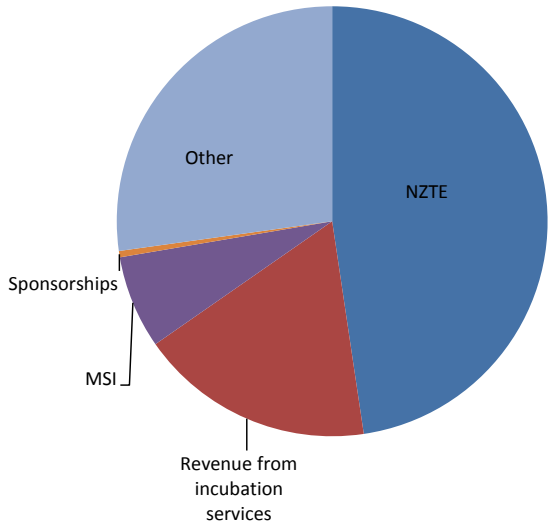
Shareholders:

powerhouse is a 50/50 public private partnership.

Public owners are: Canterbury Development Corporation (25%), University of Canterbury (12.5%), and Lincoln University (12.5%)

Private owners are 4 investors.

Finances: At 30/06/2012



Firm and Employee Statistics: At 30/06/2012

Firms	Number
Pre-incubation firm	16
Full incubation firm	11
Post incubation firm (still resident)	0
Anchor tenants	0
Alumni firms	53
Alumni firms still trading	44
Employees	
Number of incubator staff	12
Incubator staff ftes	12
Executives in residence	0
Other advisors	Informal network
Other mentors	Informal network
Other consultants	0

Points of difference:

powerHouse believes great value is stored in the knowledge held by research-based organisations. But it is internationally recognised that the process of transforming academic knowledge into successful business models, commercial operations and sales is extremely challenging.

powerHouse has developed its own methodology to systematically commercialise intellectual property and technology. This involves four main stages – screening commercialisable IP, shaping the technology to fit identified market needs, preparing a venture for investment, and targeting capital to test assumptions so a robust venture is ready for follow-on investment. powerHouse

incubates these companies, providing capital, business building expertise, networks, recruitment and mentoring support.

At powerHouse we:

- Educate entrepreneurs through our mentors and incubation programme, and University students via our classes, workshops and internships.
- Identify compelling intellectual property-based opportunities with significant growth prospects.
- Create these opportunities into a diversified portfolio of robust businesses
- Invest in high growth start-ups.
- Grow our assets and those we manage on behalf of third parties.
- Generate businesses that will make a meaningful contribution to the local and national economies.

Soda

Context and History:

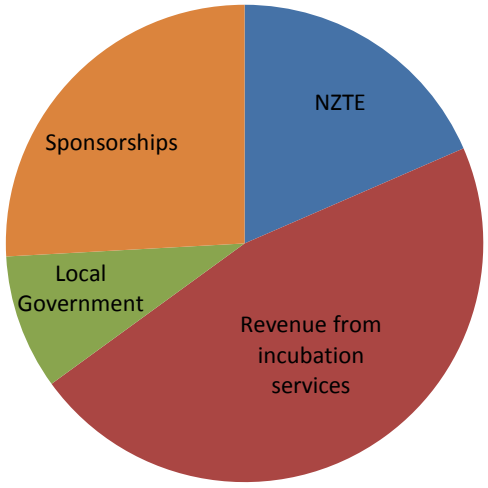
SODA Inc was established in 2009. It has a technology focus (digital, creative, ICT, and weightless). The first companies will graduate from the incubator in 2012.

Shareholders:

Waikato Institute of Technology (Wintec) (60%), and Hamilton City Council (40%). Wintec were instrumental in setting up the incubator and provided annual cash contributions during SODA's initial three-year start-up phase. Hamilton City Council has provided the office space refurbished specifically for the incubator.

SODA also has six corporate partners who provide cash and in-kind services: ASB (bank), Bold Horizon (marketing, design, web), CISCO (computing), Deloitte (accounting, tax), Norris Ward McKinnon (legal, IP), Velocity Networks (optic fibre telecommunications).

Finances: At 30/06/2012



Firm and Employee Statistics: At 30/06/2012

Firms	Number
Pre-incubation firm	3
Full incubation firm	5
Post incubation firm (still resident)	0
Anchor tenants	1
Alumni firms	0
Alumni firms still trading	0
Employees	
Number of incubator staff	4
Incubator staff ftes	3.2
Executives in residence	6
Other advisors	3
Other mentors	5
Other consultants	4

Points of difference:

SODA is a source of energy for transformation of businesses from the Hamilton region. SODA integrates three core activities:

1. business incubation programmes for start-up businesses
2. cluster development for established businesses
3. industry events for both start-up and seasoned entrepreneur's

All SODA's activities are designed to support the growth of new and established globally oriented firms in the Waikato region and to encourage firms to co-operate and collaborate, to go together to global markets.

The principles of integrated incubation and clustering, operated in a internationally linked hub, supported financially and through in-kind contributions by a network of dedicated private and public corporate partners, lay the foundations of growth for companies. In addition, SODA's drive in stimulating regional economic development is now impacting on business growth across the region.

SODA's initial cluster development activities have centred around the establishment of the Digital Industry Forum that spans industry sectors and looks for all members to benefit and grow through digital technologies (Not just IT industry, also agritech e.g. Gallaghers and LIC, as modern firms need to be digitally focussed to maximise productivity).

Upstart

Context and History:

Upstart was established in 2004, as an evolution of the previously existing Dunedin Fashion Incubator. Over five years the Upstart brand became established and the fashion incubator was split from Upstart and devolved to the Otago Polytechnic in 2009. The fashion incubation industry has unique requirements.

Following resignation of the CEO and the subsequent appointment of a new CEO, in late 2011/early 2012 Upstart carried out a fundamental review of its strategic positioning and operations. The major findings of the review were:

- The need for the various early-stage business support initiatives in Dunedin to be 'connected up' in a far more effective manner;
- Reconsideration of the location of Upstart and the 'non-residential' model it operated;
- The lack of clarity in the market about the role of Upstart and the way in which it adds value;
- The identification of a group of "Additional Opportunities" that Upstart could pursue to increase its deal flow and optimise its performance.

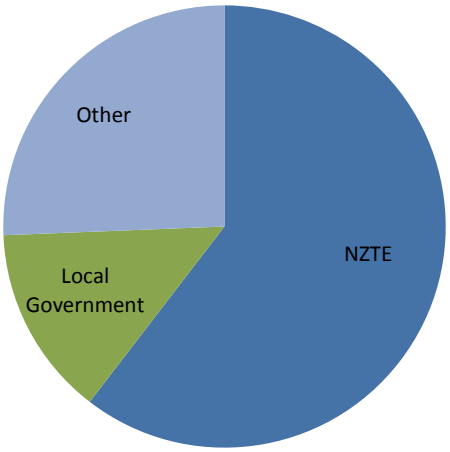
Thus there have been major changes in staffing and operating procedures at Upstart and new practice is in the process of being embedded.

Upstart has had incubator client firms from Dunedin and elsewhere in the Lower South Island. While the current focus is on establishing a residential incubation model in Dunedin, Upstart will seek new business from clients located in North and Central Otago and Southland. Upstart manages the Otago Angels network which comprises angel investors in Dunedin and Queenstown.

Shareholders:

The founding partners of Upstart were: Dunedin City Council, University of Otago, and Otago Polytechnic. Representatives from these organisations, together with an independent Chair, comprise the board. Historically Upstart has not usually worked on commercializing University IP. A wholly owned University subsidiary, Otago Innovation Limited (OIL), exists to achieve these aims, and Upstart aims to work in collaboration with OIL to provide incubation services. Upstart's clients therefore come primarily from the wider Dunedin public and students.

Finances: At 30/06/2012



Firm and Employee Statistics: At 30/06/2012

Firms	Number
Pre-incubation firm	9
Full incubation firm	4
Post incubation firm (still resident)	0
Anchor tenants	0
Alumni firms	31
Alumni firms still trading	21
Employees	
Number of incubator staff	6
Incubator staff ftes	5.5
Executives in residence	0
Other advisors	As required
Other mentors	As required
Other consultants	As required

Points of difference:

Upstart leverages a key advantage of Dunedin being a low cost, high knowledge based city that provides a great environment for start-ups to work in/from.

Dunedin is a well-connected knowledge city with a world class university and the opportunity to have a great lifestyle. The university contributes to the lifestyle the city offers.

Upstart has a high level of support from the tertiary sector to support a vibrant start up ecosystem, including support to run Audacious, the student start up competition, access to student, postgraduate and academic expertise to resource and advise incubatees, and a sharing of resources such as visiting speakers and world class experts.

The incubator is focusing on core incubation activity at this time. Upstart has a performance culture where they push their clients to succeed. Analogy is to a gym rather than a club, with coaching to achieve goals.

Upstart emphasis is on technology-based businesses.

Appendix 2: Recommendations of 2008 Evaluation

Policy recommendations

i. To continue support for the Incubator Support Programme up to and including 2014/15. Such support would be used to incentivise quality in incubation and generate greater quantities of high growth international companies.

ii. To move from an annual grant process to committing funding to incubators on a multi-year basis. Multi-year funding would lower the transaction costs of incubators and provide greater stability to incubators. We recommend there be two three year terms of multi-year funding, with funding paid out to incubators annually.

iii. To direct NZTE to:

- determine the exact mix of fixed versus flexible funding under a system of multi-year funding. A fixed level of base funding could be used to retain key personnel in incubators. A flexible amount of funding could be performance related; and
- establish new funding contracts with incubators. As all incumbent incubators have already been through a number of years of fully contestable funding we recommend that contracts with these incubators be on a negotiated basis. However, contracts with any additional incubators to the programme should continue to be on a contestable basis.

iv. As more funding may be needed to effect the transition of incubation under the Globally Competitive Firms (GCF) theme of the economic transformation agenda, direct NZTE to investigate and propose options for a revised structure to the funding of incubators. This work would include determining the optimal structure in terms of:

- set thresholds for investment in each incubator (with a possible increase in total award funding), or a sliding scale of funding (which is fiscally neutral but with possible front loading);
- the optimal term for funding (i.e. should funding be fixed for six years or should there be six years of sustained funding and then migration to other forms of NZTE support in year seven and beyond); and
- funding incubator projects from a distinct source, to encourage flexibility of funding.

NZTE is invited to submit a proposal for a revised funding structure of incubators to the Minister by 30 September 2008 to be considered for the 2009/10 budget round. Such a business case should include ways to connect incubation to GCF, re-prioritisation options and specify the annual amounts of funding for each year of a multi-year funding term.

v. Agree to a future evaluation of the Incubator Support Programme to be undertaken in 2012. Such an evaluation should focus on the financial performance and survival rates of company exits.

In preparation for such an evaluation we recommend that the Minister direct MED and NZTE to agree and set performance measures for incubators supported under the programme by 31 October 2008. Realistic metrics are needed to drive a continual improvement in incubator performance.

Following the review of the Pre-Seed Fund by MoRST, direct a joint report back by MED and MoRST on issues on pre-incubation. Technology pre-incubation helps to test a new technology idea in unproven markets. While this is an important area for generating deal flow for incubators, undertaking such pre-incubation is a costly and time consuming process.

vii. If the government wishes incubators to further develop relationships with universities and CRIs to encourage technology transfer and commercialisation the right incentives need to exist. To alleviate any disconnect between these organisations we recommend that policy advice be developed for the Minister for Economic Development on how incubators can link into innovations from New Zealand universities and CRIs. Specifically policy should:

- obtain a greater understanding of the role of universities and CRIs and some of their behaviours; and
- review the overall effectiveness of funding instruments and related policies to incentivise innovations.

Recommendations to improve operation of the Incubator Support Programme

In seeking improvements at an operational level to the Incubator Support Programme we recommend that NZTE:

- re-consider the definition of high growth companies as it applies to incubated companies;
- enhance the transparency of incubator awards;
- review the system of tracking company exits from incubators; and
- socialise the outcomes of incubator projects more widely.