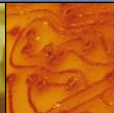
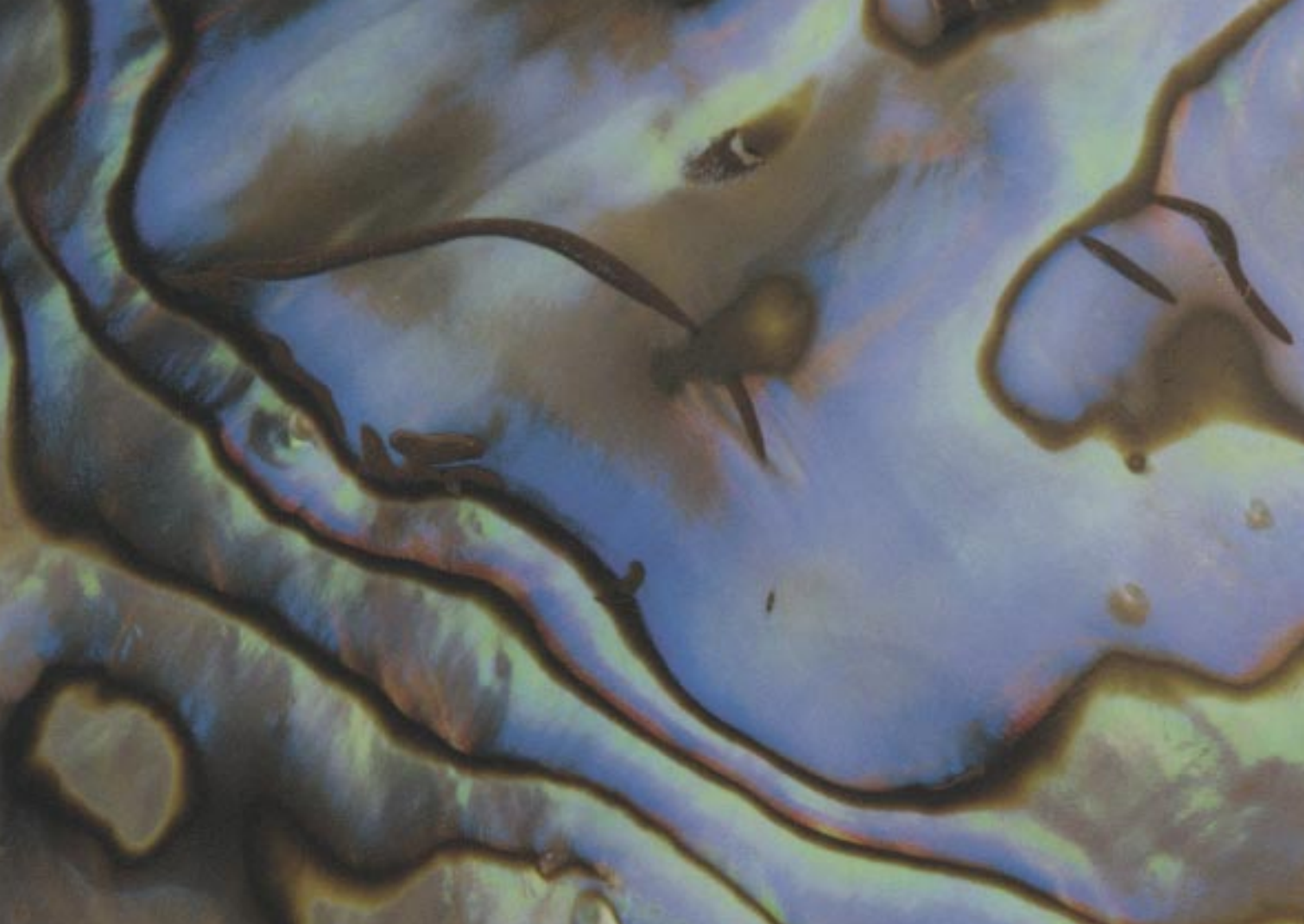


BrightFuture



Making ideas work for New Zealand



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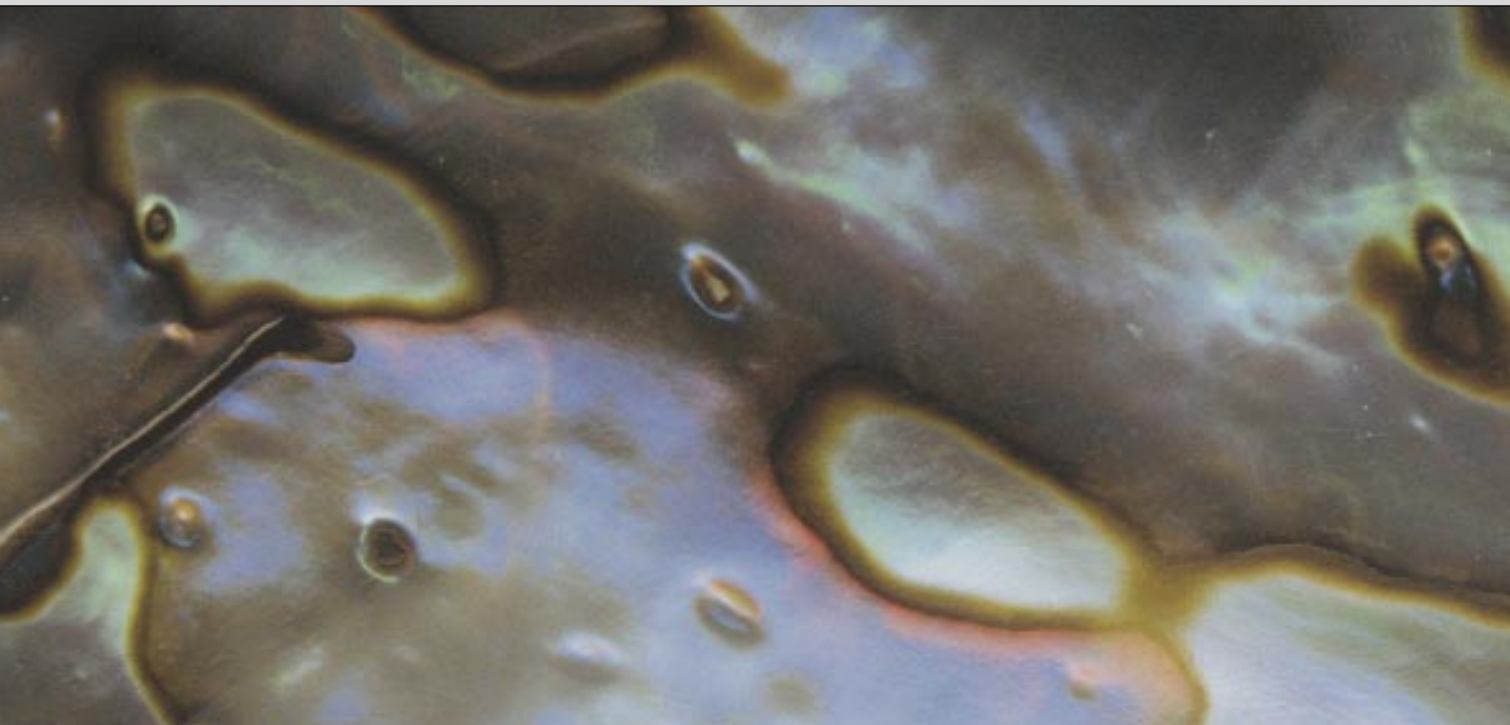
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Rt Hon Jenny Shipley
Prime Minister

Foreword

Since last year Cabinet Ministers have been working in teams. Each team works across broad sectors of government business to make sure we get the best results for New Zealanders.

Max Bradford leads the team responsible for innovation and enterprise. This team has been building upon the sound economic framework we have in New Zealand to position New Zealand for the knowledge-based economy.

He and the other Ministers in the team have been out listening to your thoughts on this issue. They have brought your feedback and their own ideas to the Cabinet table, and we have agreed a pathway into the future.

“Bright Future, Making ideas work for New Zealand” is the result.

This booklet sets out what we heard from you, and our response.

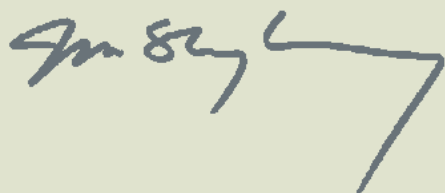
It talks of building excellence in education; turning ideas into wealth for New Zealanders; and the celebration of success.

It also tells how we can move forward together by making our ‘ideas machine’ work better for all New Zealanders.

But it cannot end there.

All of us have a role to play in making New Zealand a country rich in ideas and positive in spirit.

I invite you to make your contribution to a bright future for New Zealand.

A handwritten signature in dark ink, appearing to read "Jim Swales", with a long, sweeping horizontal line extending to the right.

Overview

The Challenge

Land and what the land produces made our country rich earlier this century. It gave us one of the highest standards of living in the developed world 30 years ago.

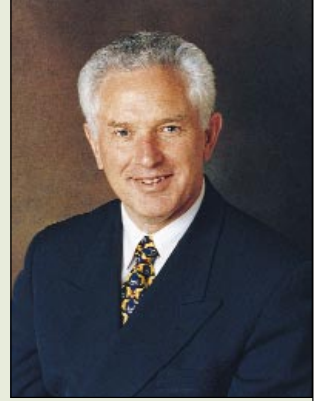
But while land will always be important to New Zealanders, in future what's in our heads will be as valuable as what's in our paddocks, our forests and our oceans. Our ability to embrace new technologies and make them work for us will be more important in the future than our ability to simply farm or manufacture more efficiently.

New Zealand stands at a crossroads. We can stand still and rely on commodities to pay our way as we have in the past. Alternatively, we can join the leading nations of the world who are forging a bright and exciting future, based on knowledge and new ideas. It's up to us to create new value by bringing increased intelligence to everything we do.

Whether we like it or not, we are part of a global marketplace of consumers and producers. People drink our wine in America and wear our fashion garments in Britain. Here, we drive Japanese cars and eat Italian ice cream.

We are going through a revolution in information and communications technology. It's easy to overlook the scale and pace of the change. Advances in information and communications technology are changing the way we do everything, from buying a book on our home computer, to banking at an ATM in Zurich. Competition has increased dramatically and we have to lift our game, now.

We are part of the knowledge age. We must continue to generate ideas and create value from those ideas. We must nurture our people so we all have the skills to live and work in the knowledge era.



HON MAX BRADFORD
MINISTER FOR ENTERPRISE AND COMMERCE
MINISTER FOR TERTIARY EDUCATION

- New Zealand stands at a crossroads
- Knowledge will be one of the key drivers of the New Zealand economy
- We are part of a global marketplace
- It's easy to overlook the scale and pace of change
- We are going through a revolution in information and communications technology
- We must create value from ideas

We must develop a truly vibrant knowledge economy. But it's not going to happen by itself. We have to find a recipe for success to make sure that the New Zealand of the future is indeed a country of ideas.

New Zealand is well placed to do this. We've got the basics right. The economy is in good shape. It's open and internationally competitive without the distortion of subsidies or "incentives". We have low inflation and low taxes. We have flexible labour markets. Our Kiwi 'can-do' attitude gives us the ability to fuse together practical skills with the latest technology. We are comfortable mixing our international experience with a strong, local identity.

5 Steps Ahead

In creating a vision for New Zealand we need a sharp focus and the determination to advance. That is what 5 Steps Ahead is all about. It is the key to a brighter future.

In 1998 the Prime Minister set up an Enterprise and Innovation team of Ministers to set out the Government's vision of our future. The challenge for the team was to find out how New Zealand could develop a knowledge economy and what the Government could do to help make this happen.

In February 1999 the Government announced five steps to move New Zealand towards achieving this goal:

- lifting our skills and our intellectual knowledge base
- better focusing the Government's efforts in research and development
- improving access to capital
- getting rid of the red tape stifling innovation
- promoting success, and supporting creative and innovative New Zealanders.

We held 25 forums around the country which were attended by key people in business, education and research.

- We must find a recipe to make New Zealand a country of ideas

- We've got the basics right

- The 5 Steps hold the key to a brighter future

- They were announced in February 1999

- 25 forums were held around the country



At the forums we shared new ideas and heard from some of the country's most inspirational people. We tested out the Government's thinking with the community. One of the strongest themes was the need to strengthen partnerships between business people, researchers and educators. For too long they have worked in isolation from one another.

Overall, the forums provided a compelling message that New Zealanders want leadership and direction to enhance New Zealand's economic performance and to involve all of us in the knowledge economy.

The Response

Drawing on the ideas raised at the forums, the Government has set out its vision for New Zealand's Bright Future. It is a comprehensive package of initiatives. It represents a substantial investment in developing our knowledge economy.

These initiatives are practical steps forward. They strike out in a clear direction, building from the strong base of our economic fundamentals. The initiatives show how Government is prepared to provide leadership by playing its part.

We will make sure all New Zealanders have the skills to live and work in a knowledge era. We will be looking to back people with the potential to build New Zealand's knowledge and economic base.

Next year there will be scholarships available for our brightest and best. The scholarships will encourage able students to keep learning, particularly in the science and technology area. And they will provide them with the very best educational opportunities and links to enterprises. When fully implemented these scholarships will be worth \$30 million a year.

There will also be awards for top secondary students and for our best teachers. Encouraging and supporting high achievement is an investment for us all.

- At the forums we shared new ideas and heard from some of the country's most inspirational enterprises

- New Zealanders want leadership and direction

- The Government has set out its vision for a Bright Future

- The initiatives are practical steps forward

- 500 enterprise scholarships jointly funded with industry for the 2000 academic year, rising to 1500 by 2002
- Up to 80 doctoral scholarships worth around \$40,000 each a year
- Increased bursaries awards for top maths, science and technology secondary school students. Worth \$1 million a year
- \$10.2 million over three years for teacher study awards and fellowships in maths, science technology and enterprise

We will build the capability of our workforce. We will refocus enterprise education to make sure it meets the needs of industry and we will develop future entrepreneurs.

New Zealanders deserve an excellent tertiary education. This requires a focussed tertiary education sector with strong links to the business and research sectors. We are going to set up a Higher Learning Sector Taskforce to develop a shared strategic vision for the shape and structure of the tertiary sector.

We will better focus our research efforts. We are setting up a \$36 million a year New Economy Research Fund to generate ideas for future businesses. Researchers will be assisted to bring their skills and knowledge out of the laboratory and into the marketplace. There will also be post-graduate fellowships to kick start the research careers of our best and brightest.

We want to be sure that research and development in New Zealand receives the encouragement that it deserves. The Government will review factors affecting investment in research and development in New Zealand, and report by March 2000. The business, education and research sectors will be consulted on this review.

In a knowledge economy, ideas are our greatest asset. We have to nurture them. So we are setting up a national 'ideas' incubator. The incubator will provide business expertise to get companies to the point where others can invest in them.

- Taskforce to ensure enterprise education meets needs of business
- \$1 million over three years to foster enterprise education in schools
- A Higher Learning Sector Taskforce expected to report by June 2000
- \$36 million New Economy Research Fund
- \$7.25 million a year for post-doctoral fellowships
- A review of factors affecting investment in research and development will be undertaken by March 2000
- A national 'ideas' incubator to help companies get their ideas to market



We are going to improve the way bright ideas are funded. We will support the growth of a new capital market that can turn people's innovative ideas into commercial reality. The new capital market will be up and running by next April. We will also reduce the costs to firms of raising capital by changing Securities Act legislation. Government is committed to making insolvency laws work for creditors and debtors. A review of the insolvency laws is under way.

Government will make life simpler for the small and medium-sized businesses that are the powerhouse of the New Zealand economy.

To make sure that Parliament's statutes don't impose unnecessary burdens, we are going to set up test panels of small business expertise to look at draft legislation before it becomes law. The tax system will be redesigned for the realities of small business.

Wherever possible, we are going to cut the cost of complying with the law and get rid of obsolete regulations. We estimate that up to a quarter of our regulations may be redundant. Government departments will be required to conduct a cull of their regulations.

The last part of our package is about nurturing our tall poppies – it's about celebrating success.

The Prime Minister's Awards for Excellence will help motivate New Zealanders to aim high and be the best.

We need to excel in our thinking and have an ambitious vision for the century ahead. To achieve this, the Innovate New Zealand Council will be established. The Council will help create a focused view between the Government, education, research and business sectors about the key issues impacting on business growth in New Zealand.

- A new capital market that can turn people's innovative ideas into commercial reality. Starts April 2000
- Changes to the Securities Act legislation to reduce the cost of raising capital
- Review of insolvency laws under way
- Small business test panels to review and reduce the costs of legislation
- A less taxing tax system
- Departments will be required to conduct a cull of their regulations. Reductions of 12–25% are possible
- Prime Minister's awards for Excellence to promote national and local role models
- Innovate New Zealand Council to develop a shared view of New Zealand's future



To enjoy a bright future, everyone has to play a part. The Government alone can't make ideas work for New Zealand. Only businesses and people can do that.

We've got to want to be the best and have confidence in ourselves that we can do it. We can all appreciate what it takes to be an All Black and we all want to support them. If we can do the same for the All Blacks of enterprise, we can achieve the goal of all New Zealanders sharing a high standard of living.

Bright Future will spearhead our efforts to create an innovative country that celebrates success. The package represents a significant commitment by Government and a strategic refocusing of current Government spending. The details of the initiatives and the thinking that got us there are set out in this book. There is also a record of the feedback we received from the forums and the stories of some of our business successes.

Why don't you become part of this vision the Government has for New Zealand? It's your future too.

A stylized black ink signature of Max Bradford, consisting of a large loop at the top and a series of connected loops below.

HON MAX BRADFORD
MINISTER FOR ENTERPRISE AND COMMERCE
MINISTER FOR TERTIARY EDUCATION



- We've got to want to be the best and have confidence in ourselves that we can do it
- We want New Zealand to be the best country in the world to live and do business

THE ENTERPRISE AND INNOVATION TEAM:

Hon Max Bradford (lead)
Rt Hon Sir William Birch
Hon John Luxton
Hon Dr Nick Smith
Hon Maurice Williamson
Rt Hon Don McKinnon
Dr Hon Lockwood Smith
Hon Simon Upton
Hon Tuariki John Delamere

The Knowledge Economy

A knowledge economy is one that places a premium on constant innovation, skill and use of the latest advances in communications and technology. Most of all, value lies in knowledge and fresh ideas.

The knowledge economy works on several levels. It involves using knowledge to increase the value of existing assets such as land, trees and minerals. It also refers to the creation of entirely new products, services and technologies such as Universal Card Interface (UCI) a multiple card reader for smart cards developed by SmartMove in Auckland.

What distinguishes the knowledge economy from earlier eras is the speed and scale of change underway and the sophistication of the consumers. The cumulative effect of change and innovation on all fronts amounts to a revolution in the way we work and live.

The knowledge economy calls for:

- an open and competitive economy
- a highly skilled and flexible workforce
- ready access to investment capital
- robust links between industry, education and researchers
- ease of communication and transportation
- a culture of innovation and success.

“Knowledge has become perhaps the most important factor determining the standard of living – today’s most technologically advanced economies are truly knowledge based.” – World Bank

MĀORI IN THE KNOWLEDGE ECONOMY

The knowledge economy is a challenge to us all. The Māori community, including Māori researchers, businesses, educators, and iwi groups need to be up with the play, and be leaders in using knowledge to generate and develop new ideas. The recognition and development of traditional knowledge, including respective rights to this, is also a key issue.

Greater Māori participation in areas of science and technology will be important to promote and expand Māori participation in ‘knowledge-based’ industries, and to allow Māori to take full advantage of knowledge-age opportunities. The Government has a role to play in providing education and training services for Māori, and addressing any barriers to access. Yet it is up to Māori to take up the challenges of the knowledge age, and to develop their knowledge to create new products and services of value.

Rising numbers of Māori in the workforce make this challenge all the more important for Māori. The Māori population is expected to increase in size by 33% by 2021. Through the 5 Steps Ahead initiative, Government is committed to seeing Māori excellence recognised, and Māori participation in the knowledge economy expanded.

A number of Māori-owned enterprises are already successfully using their knowledge base to create value. These include businesses in areas of computer animation, tourism, natural pharmaceuticals, and computing services. Business success stories like these provide role models to point the way for further Māori involvement and investment in the knowledge economy.

BIOENGINEERING BREAKTHROUGH

Cutting edge software developed by the University of Auckland is catching the eye of Hollywood, as well as medical researchers around the world.

In the latest development, two computer engineers from UniServices Ltd at the University of Auckland are heading off to Los Angeles to rub shoulders with the elite of Hollywood's special effects community. They will display photorealistic facial animation software at the world's premier computer graphics conference, SIGGRAPH.

Shane Blackett and Richard Christie are part of a team responsible for the development of the CMISS software, which together with its graphical interface component, CMGUI, also keeps the group at the forefront of the Physiome project, the international effort to develop a computer model of the entire human body.

The demand for detail in the special effects business has meant that this hi-tech approach to modelling the human body has found applications in the entertainment industry, as well as more obvious medical applications. Dr Christie says "Bio-engineering, or modelling the human body on computer, is becoming one of the fastest-growing fields in engineering worldwide."

CMGUI can be used to make a person look older or younger, can reduce or enhance an actor's performance or change the emotion of the scene. Because the model is physiologically based, it can deliver a greater amount of precision than can be offered by any other special effects company.

In the medical field, the programme has been used in testing and designing drugs, and to study the relationships between the individual cells in hearts and lungs, and the operation of whole organs. Dr Christie says, "Demands for powerful and realistic computer graphics to simulate the workings of the human body are increasing all the time as the complexities of the models approach that of real life."

Pacific Title/Mirage Studios (PTM), based in Hollywood, licenses software from the University of Auckland – an arrangement which benefits both partners. PTM gets a sophisticated software package and the backing of more than 20 research and development staff in the Engineering Science department. The Bio-engineering research group receives funding for development staff, graphics hardware and research on an ongoing basis. Features developed for PTM can be also used by the Physiome project and researchers here.

TAIRAWHITI PHARMACEUTICALS LTD

Building on partnerships and community support, Tairawhiti Pharmaceuticals has taken its highly active and therapeutic Manuka oil to the world.

The company was formed in 1991 after two years of preliminary investigation by two separate groups. One was a local Māori charitable trust, driven by the desire to generate much-needed employment for Māori. The other was Mark Kerr, an industrial engineer motivated by the challenge, and seeking to be involved with an enterprise of real value.

The company also enlisted the expertise of Dr Alan Cooke at the Cawthron Institute. Lab tests carried out by the Institute showed that the East Cape of the North Island was home to an unusual type of Manuka tree, possessing powerful antibacterial and antifungal properties.

Dr Noel Porter of the then DSIR (now Crop and Food Research) encouraged the two groups to combine their efforts and make joint use of this unique resource. The association with Dr Porter and Crop and Food Research strengthened to become a joint venture and together the firm remains committed to researching the properties of Tairawhiti East Cape Manuka Oil.

Tairawhiti Pharmaceuticals is now a significant contributor to the local economy, and people both in New Zealand and around the world are benefiting from the healing properties offered by their product.



RICHARD CHRISTIE AND SHANE BLACKETT (RIGHT)
DEPT. OF ENGINEERING, UNIVERSITY OF AUCKLAND



New Zealand must organise itself for lifelong learning. Fundamental to this is a quality education system which encourages excellence and equips all students to participate in New Zealand society and the world of work. We need to foster positive attitudes towards technology and entrepreneurship from an early age. Strong links between education, research and enterprise are key to developing the kind of people we need to make us internationally competitive.



GOAL

NEW ZEALAND WILL FOSTER EXCELLENCE BY ENSURING INDIVIDUALS ARE EQUIPPED FOR LIFE IN A KNOWLEDGE ECONOMY. IN PARTICULAR WE NEED TO FOSTER THE DEVELOPMENT OF INNOVATORS, AND TOMORROW'S LEADERS.

CHAPTER 1

Learning to Excel

Learning to Excel

The Way Forward

Our success as a knowledge society in the 21st century depends on us becoming a learning nation. In the knowledge society of the future, the knowledge and skills of individuals and communities will be the source of our competitive edge. We need to become life-long learners.

A quality education system that gives New Zealanders the skills and knowledge they need is vital to the future success of New Zealand. Effective education starts early and needs to be highly responsive to the needs of business and the economy. The education sector of the future will be characterised by universal participation, high quality learning, use of the latest technologies, and close working partnerships between educators, researchers and the business community.

Effective linkages between the world of work and the world of education are crucial and need to be strengthened. These links are all the more important because of the small scale of many New Zealand firms, the relatively small pool of people to draw on, and the difficulty of attracting highly skilled people from overseas. These linkages need to be fostered from an early age through entrepreneurial studies at school.



Forum Feedback

Participants in the forums identified five key areas to lift New Zealanders' skills and knowledge:

- Foster positive attitudes to education, risk-taking, innovation and excellence amongst all New Zealanders
- Develop an education system that is responsive to the demands of the knowledge economy and is flexible to cater for a diverse range of learning needs
- Build closer connections between employers and education providers
- Equip all New Zealanders with the skills they need for the future and raise achievement across all areas of education
- Ensure that all New Zealanders have access to high quality education throughout their lives.

POSITIVE ATTITUDES

Participants in forums said that New Zealanders need to foster attitudes that value education. They said that education was wider than the acquisition of a particular set of skills or knowledge, and that it should also promote:

- Traits such as motivation, self-esteem and creativity; and
- Celebrating success, a love of learning, and risk-taking.

Many participants emphasised that individuals and employers need to understand that life-long learning is an integral part of a knowledge society, and to plan accordingly. This means that training is a joint responsibility for individuals, employers and government.

Our skill requirements for the future will continually evolve beyond what we can pinpoint with certainty now. We do know however, that the pace of technological change will not slacken and it's likely that people will have to continually gain new skills and change careers several times during their working lives. On-going investment in developing intellectual capital will be the key to success for individuals and industry. Everyone will need to be literate and numerate and the so-called 'soft' skills such as creativity, flexibility and teamwork will be more important than ever. So too will be problem-solving and analytical skills and high levels of specialised knowledge, particularly in technology and science.

Business has a vital role to play in driving skills development. Businesses and individuals need to see training as a long-term investment rather than a short-term expense. Companies need to analyse their skill requirements and build closer relationships with education and training providers. At the same time there must be a focus on in-house training to meet the requirement for both generic and job-specific skills. Providing staff with access to new skills and knowledge is not only a business asset but also an important way of motivating and retaining staff. Above all, staff must develop the skills to adapt to change and new technology. They need to learn to go on learning.

Attitudes towards excellence are just as important to success as skills. Without positive attitudes to education, innovation and excellence, people will not see or pursue new opportunities or invest in the education that's required to maximise them. It's not just government or schools who can promote these attitudes. They need to be adopted by the community as a whole.

Educators have an important role in equipping students to positively contribute to the knowledge age society that is evolving.

Forum Feedback

RESPONSIVE EDUCATION SYSTEM

There was a concern expressed at the forums that educational institutions were not open to employers and the community. It was felt that institutions were not receptive to approaches from employers, suggesting different training needs, and that (in some areas), partnerships with the community at large needed to be strengthened to provide better information and role models for students. Forum participants also felt that educational institutions needed to cater to a more diverse range of needs – to allow for different cultures, different ages and different learning styles.

CLOSER CONNECTIONS BETWEEN EMPLOYERS AND EDUCATION PROVIDERS

There was a sense in forums that the connections between employers' needs and tertiary education provision should be strengthened. People were concerned that the education system did not give people the skills that employers needed and that employers were often unsure whether a person with a qualification actually had the skills they required. There was also the feeling that often employers were not committed to giving employees access to the ongoing learning that they needed. Others expressed similar concerns, but from the perspective of the job seeker – people did not know what training to undertake because they couldn't find out what an employer was looking for.

There was a widespread view amongst forum participants that there needs to be more emphasis on 'softer' transferable skills, such as communication and teamwork skills. Some also felt that New Zealand needed to pay more attention to science and technology education.



“A civilised society comes from broadly educated people. We wish to see a greater emphasis on good general education which fits people to function in a society which is inclusive.” – Adult Literacy Aotearoa

Progress So Far

Over the last few years New Zealand firms have reported skill shortages in specialist areas essential for a knowledge economy. These are areas such as specialist information technology, biotechnology and software engineering. On the positive side however, our level of ‘hard’ natural science graduates is high compared with other OECD countries. The decline comes as we shift from these sciences to applied and technological subjects, like computer science and engineering.

At the other end of the spectrum, some New Zealanders are missing out on foundation skills such as numeracy and literacy, or lack the vital generic skills such as teamwork, communication and self-motivation. A major part of the ‘skills shortage’ reported by firms relates to matters of attitude and a lack of core skills, such as literacy, numeracy, motivation and discipline.

Government has committed itself to addressing this problem on a major scale. It has set a goal for all children turning nine to be able to read, write and do maths for success by the year 2005. To achieve this, it has initiated a literacy strategy and it has also established a maths and science taskforce to support teaching and learning in these core areas.

The Government is broadening its approach to learning and aims to fully utilise the new learning technologies that are now available to us, such as the Internet. The Information and Communication Technology strategy for schools which was launched last year was designed with this goal in mind. At

Forum Feedback

RAISING ACHIEVEMENT LEVELS

Some participants at the forums observed that we need to make sure that all New Zealanders have a basic set of skills, particularly in the areas of literacy and numeracy as well as ‘soft’ skills such as team work, creativity and self-motivation. Other participants felt that we also need to encourage those who succeed, and avoid fostering an educational system that only aspires to an average level of achievement.

Some participants considered that it was important for the education system to pick up on poor achievement early, rather than undertake remedial action later in a young person’s life. A further issue raised was the lack of good information about the quality of schools and tertiary providers, making it difficult for parents and students to make informed educational choices.

ACCESS TO EDUCATION

There were concerns expressed that the current system presents barriers to raising New Zealanders’ skills in terms of cost, access to education providers, and time. There were related comments concerning the student loans scheme and a concern that the cost of tertiary education is driving young people overseas. It was also felt that more contributions were needed from employers towards education costs for current and potential employees. Some participants also felt that there was a lack of diversity in education provision that prevents diverse learning needs being met.

the same time, positive attitudes towards entrepreneurship are being developed at school through initiatives such as the Young Enterprise Schemes. These kinds of learning opportunities need to be available to all students.

There is evidence that work-based training at firm level is on the increase. Companies and individuals are becoming more convinced about the importance of upskilling. The Industry Training strategy has led to increased numbers in structured training programmes. The development of the National Qualifications Framework has made national qualifications accessible to a much broader spectrum of New Zealanders both on and off the job. The Skill New Zealand agency works with more than 50 industry training organisations across the economy to make sure the Government's investment in training delivers the best possible results.

Overall, our levels of formal education and qualification achievement are on the rise. In 1985, 43% of the working population had no formal qualifications. By 1998 that number had decreased to 29%. Our levels of participation in tertiary education have also risen substantially. In 1985, 36% of our population had post-secondary school qualifications and by 1998 this had increased to 44%.

We still have a long way to go. There is still a reluctance among many firms to implement effective training programmes and to see training as an investment.

“Schools, tertiary education departments and universities need to work more closely with businesses and other organisations so that people not only get a far more rounded education, but the employers who finish up with the end product can give feedback about how well the educational system is working.” – Commercial Cut Flowers Group



It is widely thought that we have a serious 'brain drain' problem. We do recognise that there has been growth in emigration recently across many occupations, including the areas of physical and mathematical science, engineering and information technology. However, because of our small size and isolation, it is inevitable that many New Zealanders will head off-shore to travel, work and live. We must also recognise our constraints – we are a small country of relatively small firms, and do not always have the scale which will allow us to provide the rewards that can be delivered by firms in other countries. Government can continue to implement sound economic policy to generate higher incomes and more attractive lifestyles for New Zealanders. But businesses have a responsibility too. They must be prepared to provide, wherever possible, internationally competitive rewards for these skills. They also need to invest in the ongoing development of their employees and provide attractive working environments. ●



The Next Steps to Learning to Excel

Of all of the 5 steps, the forums considered that lifting skills was the most important for the future of New Zealand. We want to instill a love of learning in our children from an early age. To do this we need to provide a quality education system for our children that brings out the best in them, and develops the skills they will need in a knowledge age.

Training Top Teachers

The Government is committed to encouraging high achievement. To do this, we need teachers that are up to date with the latest developments in teaching and in their specialist areas. The Government will boost the number of school teacher study awards. Up to 30 new full year study awards will be available annually to allow the best teachers to improve their skills in maths, science and technology.

The current Maths, Science and Technology Teacher Fellowship scheme will also be extended to allow the best teachers to spend time working in research institutions and industry, or undertaking enterprise training. Up to 30 more fellowships will be available each year. Awarded teachers will be on paid leave, while schools will be given the funds to employ relief teachers. Together the increased study awards and fellowships will cost \$10.2 million over 3 years.

We also need to increase teachers' ability to better meet the learning needs of gifted students. The Government is developing guidelines for teaching gifted students. To support the implementation of these guidelines we will provide professional development in gifted education for teachers.

Encouraging Excellence in Science, Maths and Technology

While many students study science, maths and technology subjects at senior secondary school level, few continue to study in these areas at a tertiary level. To encourage more students to go on in these subjects, current University Bursaries Scholarships awards will be increased. Approximately the top 3.5% of students in each mathematics or science subject will receive an award of \$500 if they continue their studies in these areas at tertiary level. Up to 1200 awards will be given each year.

In addition, the 90 all-round top Bursaries students will receive bigger awards. Students attaining marks of about 85% or more in each of five Bursaries subjects will receive \$2500, up from \$500 currently. Those who reach this level in six subjects will receive \$3000 (up from \$1000), and the top student in each subject area will receive \$5000 (up from \$3000). Finally, the top overall male and female student, and the top male and female Māori and Pacific Island students, will receive \$8000 (up from \$5000).

TOP TEACHER DEVELOPMENT

- To extend skills of top teachers in science, maths, enterprise and technology
- 30 additional full year study awards each year
- 30 additional fellowships each year
- \$10.2 million additional funding over three years

UNIVERSITY BURSARIES SCHOLARSHIPS

- Targeting top students in science, maths and technology
- Up to 1200 awards each year of \$500
- Up to 90 awards each year for all round top students ranging from \$2500 to \$8000
- In place for 1999 Bursaries exams
- \$1 million cost per year

These scholarships signal the importance that the Government places on high achievement, particularly in science, maths and technology. These scholarships will be in place for the 1999 Universities Bursaries Exams, and are worth about \$1 million each year.

Developing Future Entrepreneurs

Developing entrepreneurial skills in our students will assist them not only to be better employees, but also to become employers. To do this well, we need more partnerships between enterprises and schools. A contestable pool of funding of \$1 million over three years will be available for enterprise education from January 2000. This will enable more students to learn about how enterprise really works and what skills they will need to get ahead in business.

The Right People With the Right Skills

For New Zealand to get ahead, businesses must have access to the highly specialised skills they will need. Education providers and enterprises need to work closely together. The Government will offer enterprise scholarships that are jointly funded with industry. The scholarships will be available for both advanced study with a research component, such as a Masters degree, and advanced learning in technical areas. This will ensure that research is better aligned with the needs of enterprises.

Scholarship proposals will be selected according to how they best combine student excellence, the potential to build New Zealand's knowledge and economic base, and how they assist links between tertiary education and enterprise. Students, education providers and enterprises will have to work together to prepare proposals for scholarships. All tertiary education providers can be involved. Approximately 500 scholarships will be awarded in 2000. By 2002, up to 25% of enrolling postgraduates could be expected to gain an enterprise scholarship. When fully implemented the annual enterprise scholarships will be worth \$20 million per annum.



DEVELOPING FUTURE ENTREPRENEURS

- To raise entrepreneurial skills in school children
- To encourage more partnerships between enterprises and schools
- \$1 million over three years available from January 2000

ENTERPRISE SCHOLARSHIPS

- Jointly funded with industry to increase pool of specialist skills
- For advanced study, jointly agreed between student, education provider, and enterprise
- 500 scholarships (2000) rising to 1500 (2002)
- Government contribution up to \$20 million annually by 2004



The Best For the Best

Our best and our brightest deserve the opportunity to gain the best education the world can provide. These are our future leaders. We want them to be the best that they can be, and to work for New Zealand. Scholarships will be offered to enable the very best New Zealand students to undertake doctoral level research with the provider of their choice. Around 80 new scholarships will be awarded annually, and will cover all expenses and a stipend for the period of study, which may be overseas. The scholarships, worth around \$40,000 each per year, will be awarded on the basis of academic merit and students will be bonded. In total these will be worth approximately \$10 million each year.

Less Costly Loans

The forums felt that student loans were encouraging more graduates to go overseas. The Government has examined this issue and can find no evidence that high debts are encouraging graduates to leave New Zealand. It seems that for many graduates the 'overseas experience' is a right of passage that provides them with an opportunity to see the world and learn new skills.

The build-up of interest payments while studying has been identified as an issue of concern. Therefore, the Government has announced that from 2001 it will reduce the real interest rate for students on no or low income by up to 25% while they are borrowing.

Currently loan repayments made once the student is no longer borrowing are used to pay off interest first. The Government has announced that from 2001 where repayments do not cover the interest on the loan, up to half of any loan payment (after accounting for an inflation adjustment) will go to paying off the loan principal. This will assist students to repay their loans more quickly.

The student loan interest rate is set annually using a formula agreed to by Government. It has been seen as high compared to other types of commercial lending such as home mortgages, although it is lower than for credit card rates and personal loans. Therefore, the current rate formula is being revised and the results will be available early next year.

Getting Excellent Tertiary Institutions

Last year's Tertiary Education Review set the framework for funding tertiary education in the future and for assuring the quality of teaching and qualifications. The Government remains committed to ensuring that tertiary institutions are well managed, strategically focused, effective and efficient.

A quality education system has tertiary institutions with world-class reputations in their chosen fields of excellence. New Zealand is too small to have seven

DOCTORAL SCHOLARSHIPS

- To help our best and brightest to be the best in the world
- For top doctoral students
- Up to 80 scholarships each year for study in New Zealand or overseas
- Cost of \$10 million each year
- Worth around \$40,000 each per year

LESS COSTLY LOANS

- To reduce the costs of loans to students
- Up to 25% of student loan real interest payments will be written off while the student is borrowing
- Up to 50% of repayments (after adjustment for inflation) will go to repay the principal when the student is no longer borrowing
- The formula for setting the student loan interest rate will be revised and results will be available early next year

HIGHER LEARNING SECTOR TASKFORCE

- Develop a widely accepted vision for the future of the tertiary sector
- Establish a clear agreement on responsibilities for how to implement the vision
- High level taskforce to lead the process
- Expected to report by June 2000

universities and 31 other institutions, all of which are world class. We need to move in a more managed and co-ordinated way to develop fewer but stronger institutions and centres of excellence.

A quality tertiary system must meet many needs. This will require strong relationships with many sectors in the economy, including other research institutions and enterprises. It will also need strong links to key groups in society such as Māori. Such a system would provide a wider range of choices and educational opportunities for all New Zealanders.

To meet these challenges we need a strategic vision for the structure and shape of the tertiary sector that is widely shared and understood. We also need a shared understanding of the role and responsibilities of Government and other parts of the sector, in achieving that vision. A high level taskforce will be set up to address these issues. It is expected to report to Government by June 2000.

Refocusing Enterprise Education

In a rapidly changing world we all need to keep our skills up to date, or risk being left behind. This is an issue for both employers and employees.

A high level taskforce will examine how best to:

- Encourage people in business to continually update their skills
- Build strong links between enterprise and education
- Ensure Government puts its efforts in the right places.

The taskforce is expected to report by June 2000.

Adult Literacy Strategy

Literacy is essential for the success of individuals in a knowledge society. Government will announce an initiative in this area in the next few weeks.

More Flexible Qualifications

The qualifications system must meet the diverse needs of employees and employers. A white paper outlining government policy on qualifications will be released in September/October 1999.

Decisions on tertiary funding for the 2000 academic year will also be announced shortly in order to assist tertiary institutions to plan for next year and to set student fees.

ENTERPRISE EDUCATION TASKFORCE

- Recognition of need to constantly upgrade our skills
- Responsibility for skills development rests with both employers and employees
- High level taskforce to consider the best way for Government to assist
- Expected to report by June 2000



STEPHEN TINDALL, WAREHOUSE MANAGING DIRECTOR

PEOPLE — ‘OUR GREATEST ASSET’

A key part of the Warehouse’s phenomenal success has been its focus on growing the skills of staff to meet customer needs.

“People are our greatest assets,” says managing director Stephen Tindall. “The skills development of our people is essential to our competitive advantage. If you don’t give people the tools to do the job, you’re failing them and yourselves.”

“Retail today is very complex and retail is detail. There are a range of skills needed in different areas of the business, from buying and merchandise planning to IT, and the use of sophisticated inventory systems. There’s nothing more futile than saying ‘Here’s a job. Do it.’ without the right training support,” he says.

The Warehouse has developed a comprehensive approach to training and career development for its 5,000 staff members. It has a specialist training department, and has introduced its own Achievers Certificate to improve skill levels of team members and recognise excellence. The Certificate, containing a number of competency-based modules, is mandatory for staff and covers customer service, merchandising, health and safety and loss prevention. An underlying philosophy is that interpersonal skills are as important as technical skills.

Warehouse human resource general manager, Monica Davis, says that “staff have a real thirst for knowledge and training. They’re looking for it. They want it.”

Since 1982 the Warehouse chain has expanded from a single store to 70 stores nationwide. Over the last five years, it has achieved average annual growth of 30%, broadened its product range and become a shopping destination for more than a million New Zealanders every week.

ENTERPRISING YOUNG PEOPLE

A new programme in schools is helping to introduce students, like 11 year old Matthew, to the world of enterprise. Matthew is in year 5 at school. For most of his schooling years he has not seen the importance or relevance of learning. He had low self-esteem and problems mixing with his peers. His parents were concerned with his lack of motivation and anti-social behaviour at school.

With some apprehension, Matthew joined the PrEP (Primary Enterprise Programme) at his school. He soon discovered that the gardening stream needed his practical skills. With dreams of being a carpenter, Matthew started learning about pricing for the job and writing contracts. His math skills improved in leaps and bounds as he began dealing with money and working out costs. Moreover, his group found that Matthew made a worthwhile contribution.

With new-found confidence Matthew started working at reading and doing homework consistently. He now enjoys going to school and his social interaction skills are improving. Matthew’s mum believes that he has learnt about the economy in a real way, and is developing life skills and a strategy for surviving the real adult world. “The PrEP programme is making my son feel like a whole person and is giving him a reason to learn.”

PrEP is now in 34 schools around the country, educating students in curriculum areas of technology, math, social studies and art. John Reynolds, Principal of Roseneath School says “PrEP provides an opportunity for our school to come together and for students of all ages to work together. It gives them many opportunities to take the initiative and make decisions.”

Ken Baker of Enterprise New Zealand Trust says “The Trust has always believed that enterprise education is important. Children need to be encouraged to be creators and investigators. They need to be given opportunities to weigh up ideas and see all the consequences. We would like to see the education system gearing itself to produce job creators as well as job seekers. PrEP gives children a chance to create jobs at an early stage.”

JOHN REYNOLDS, PRINCIPAL ROSENEATH SCHOOL



2

Knowledge and expertise will form the foundation for innovation in the years ahead. Government will continue to play its role in funding research and development and will also assist in commercialising our best ideas. It's also imperative that private firms place a much greater emphasis on research and development. New Zealand needs to improve the flow of specialist information and people, so we can take advantage of the best and brightest ideas here and abroad.

GOAL

INVESTMENT IN RESEARCH AND DEVELOPMENT WILL FOCUS ON ALLOWING NEW ZEALANDERS TO USE THE WORLD'S BEST IDEAS. NEW ZEALAND NEEDS A PLATFORM OF KNOWLEDGE AND TECHNOLOGY WHICH HELPS TO CREATE NEW PRODUCTS AND SERVICES WITH COMMERCIAL POTENTIAL.

CHAPTER 2

Generating Good Ideas

Generating Good Ideas

The Way Forward

In a knowledge economy most wealth-creating ideas come from focused research and development. New Zealand will invest more in this process to increase its ability to develop winning ideas.

Government is already a major investor in research and development through universities and research organisations. The Government currently invests \$681 million in research and development but we still have some way to go in translating these efforts into commercially viable products and technologies. We will invest in research with an eye to commercial opportunity. Not all public sector spending on research and development is commercially oriented, but where it is, we will ensure that it is targeted at areas that have commercial potential. We need a system that uses ideas, not just generates them.

This isn't just a challenge for Government. New Zealand also needs to boost the level of private sector investment in research and development. The perception is that there are some real barriers to private sector investment, such as lack of incentives to invest and information about available research skills. More will be done to understand what these barriers are and to remove them.

There is a wider issue. Research and development cannot be seen in isolation and is only one part of creating an innovative economy. The calibre of people and their skills, effective financial management, good marketing and ready access to capital – all these are also an essential part of the picture. If ignored, they undermine the effectiveness of our research. We will promote a greater understanding of how science and technology fits within and contributes to



Forum Feedback

Feedback from forum participants confirmed that New Zealand should increase the effectiveness of both its public and private sector research investment. Participants identified the following areas for focus.

NEW ZEALAND NEEDS TO:

- Develop a culture that supports research and development
- Reduce barriers to private sector investment in research and development
- Better target its publicly-funded research and development
- Increase the flow of knowledge between researchers, industry and business
- Improve networks and linkages between science, business and education.

DEVELOPING A RESEARCH AND DEVELOPMENT CULTURE

Forum participants said that we need to build a research and development culture in New Zealand. One that highlights the importance of science and technology to enterprise, and rewards those involved. The science and technology sector needs to raise its own profile and play a more active advocacy role. Young people need to be made aware of the importance of science and technology in all careers and be encouraged to work in these areas.

BARRIERS TO PRIVATE SECTOR INVESTMENT

There was a widespread view amongst forum participants that many factors act as barriers to investment, including difficulties in accessing information about available research skills, lack of clarity surrounding some intellectual property issues and limitations of the ability of small and medium enterprises to support formal research and development.

Many participants suggested that the Government should provide incentives for private investment in research and development through tax-breaks.

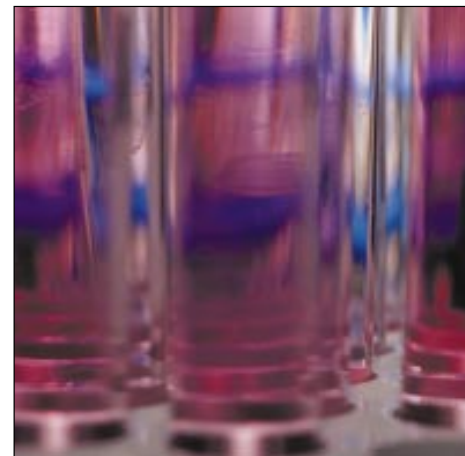
the New Zealand economy. We need more initiatives like the International Festival of Environment, Science and Technology launched in July last year through the combined efforts of local government, business and science organisations.

We also need to recognise that the many small firms in New Zealand simply don't have the capacity to undertake formal research and development on their own. The way ahead is to strengthen links with scientists and technologists and partnerships with other firms in the same industry. The benefits of these arrangements are well illustrated by the extraordinary success of industry clusters such as electronics in Christchurch, film and multi-media in Wellington, and engineering in Taranaki.

The movement of people with specialist skills will be an important catalyst for spreading innovation across the economy. We need to increase the flow of ideas between researchers and industry, both internationally and within New Zealand. It is imperative that the worlds of education, research and business achieve a genuine partnership.

Progress So Far

The Government's Foresight Project is providing greater strategic direction for New Zealand's future research and development needs. Under the Project, organised by the Ministry of Research, Science and Technology, the Government is working closely with sector groups and industries across the economy to encourage strategic development and vision. The Foresight Project has already prompted a number of sectors to be more future-focused. For example, the meat industry plans to develop a global intelligence system to anticipate changes in consumer wants and needs.



The Dunedin City Council and the University of Otago recently formalised arrangements to construct a new \$6 million Centre for Innovation. The Centre will help to create companies that build on university research and development.

“We need to provide incentives for researchers to collaborate; instead of competing with each other, we need to compete with the world.”

– 5 Steps Ahead submission

A new strategy for research and development investment has been outlined in the Government’s Blueprint for Change. The Blueprint describes the steps the Government will take to align its investments in research and development so that they support on-going development of New Zealand’s knowledge economy. All existing research and development contracts are being grouped into portfolios and aligned with national targets so that publicly-funded research makes the strongest possible contribution.

But we need to do more. Statistics indicate that our level of private sector investment in research and development is lagging behind other countries. They show that the majority of research and development activities, over 70%, are carried out by the government and tertiary sector, while in other OECD countries close to 70% of research and development is carried out by business.

There may be a number of factors contributing to this. The natural constraints associated with a small business sector means that a lot of our research and development is probably informal or recorded differently from other countries. It may also be classified differently in company accounts to receive favourable tax treatment. There is also room for improvement in ensuring that staff have the skills and knowledge to maximise the commercial opportunities from research and development.

New Zealand has one of the highest research and development growth rates in the OECD. Recent statistics show a significant increase in business research and development – total business expenditure on research and development increased 30% from 1996 to 1998. There has been a marked increase in research spending in the electrical machinery and equipment industries, which include computing and electronic research, and information and communications services.

We can also take heart from the fact that New Zealanders are embracing the potential of new technology. We are a world leader in spending on information and communications technology and have a highly competitive

Forum Feedback

TARGETING PUBLICLY-FUNDED RESEARCH

Many participants felt public investment in research, science and technology was not adequately aligned to their needs. Some saw the issue as a lack of overall direction, others highlighted investment in the wrong sorts of research and development. There was a widespread feeling that the Technology New Zealand scheme should be broadened in scope and a better balance established between applied research and long-term research. Public investment in research was felt to be low compared to comparable small economies. It was also felt that there needed to be increased capacity for research into issues for Māori, with accountability back to Māori.

ENSURING TECHNOLOGY TRANSFER

The forums highlighted the need to improve the transfer of knowledge from researchers to users. There was a strong sense that knowledge created by researchers was inaccessible to small and medium enterprises. Many felt the most effective means of transfer was through secondments of people from tertiary and research institutes into businesses. Another suggestion was the expansion of the Graduate Research Industry Fellowships. Others saw potential in the development of Internet databases and international research links and exchanges to improve knowledge flows.



telecommunications sector. Taken as a whole, our technology sector provides a significant contribution to GDP – 6.1% – only 2.1% behind the United States.

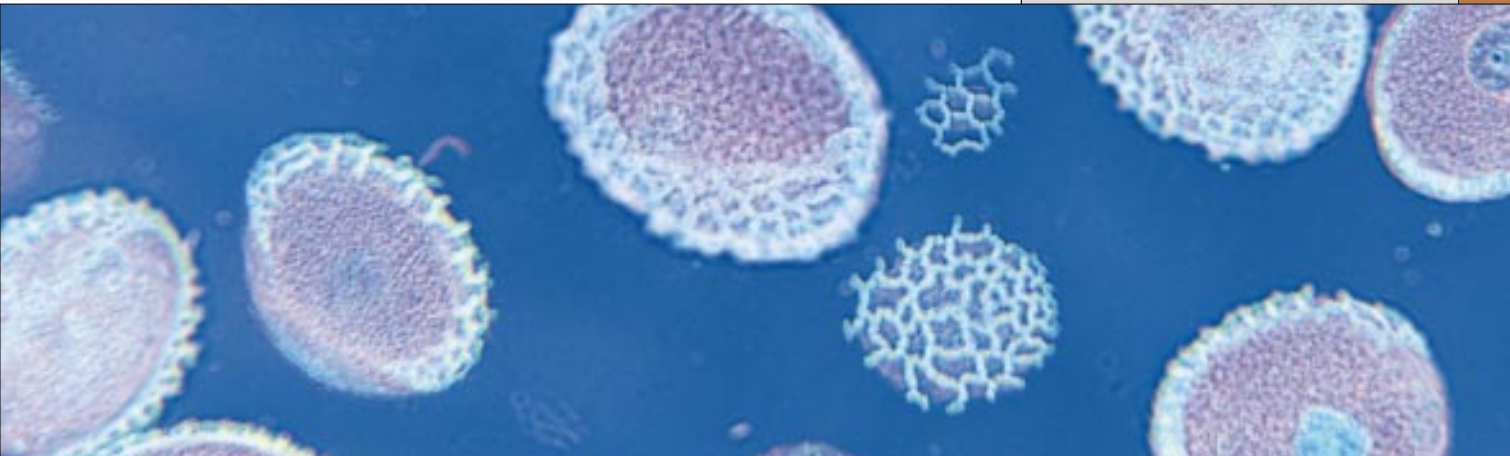
New Zealand is also regarded as an excellent testing ground for technological innovations. Ericsson is trialling its latest mobile telephone and deskless office concept in New Zealand. IBM’s integrated customer management system was developed in New Zealand and is now in use in more than 20 countries.

And a number of our own companies, such as Fisher and Paykel, Immuno-Chemical Products, Animation Research Limited, Physiome Sciences Inc, and FashionNZ, are world-class innovators in their field. Invariably their achievements are based on an impressive commitment to research and development. ●

Forum Feedback

IMPROVING LINKS BETWEEN SCIENCE, BUSINESS AND EDUCATION

Forum participants called for an improvement in the links between tertiary and research institutes and industry. There is a need for more multi-skilled graduates with research, financial and management skills and for greater overlap between the research and industry sectors. One suggestion was to create more research-based scholarships. Others felt the Government should provide incentives to create centres of research excellence involving universities, industry and research institutes.



“Too many businesses view research and development as a cost, not an investment.” – Forum participant

The Next Steps to Generating Good Ideas



Forum participants said that we are producing a lot of good ideas but are not using them well. We cannot predict exactly what areas of research are likely to lead to new discoveries and businesses of the future. However, we can increase our chances of discovering new growth areas by increasing both the amount of research and the number of people with skills in new research areas.

‘New Ideas’ Research

If we are to have the high standard of living to which we aspire, we must look to create future business opportunities. The Government has listened to forum feedback that too much public investment in research focuses on existing rather than new businesses and industries. A new economy research fund will be launched in September 1999. The fund will encourage researchers to delve into uncharted areas – their discovery could be the spark that ignites a whole new commercial enterprise. Such research could be in areas such as magnetic fields and electromagnetic waves for optical computers and medicine, or in a wide range of biochemical and biophysical processes for use in environmental management, agriculture and medicine. This fund will be worth \$36 million per annum when fully implemented. This trebles the \$11.25 million per annum announced in this year’s budget.

World-Class Researchers

To generate ideas that will create wealth, we also need world-class researchers. An elite post-doctoral fellowships scheme will be established to kick-start the research careers of our best PhD graduates. This will build on current work done by the Foundation for Research, Science and Technology. The fellowships will enable students who completed their PhD in New Zealand to complete post-doctoral research in a highly regarded university or research institute in New Zealand or overseas. 75–125 students will hold such scholarships at any one time. Study for up to three years will be supported. Funding will also be targeted to encourage New Zealand PhD scholars overseas to undertake research at home. Total funding for scholarships will be \$7.25 million per annum.

Taxing Research and Development

Many forum participants felt that New Zealand’s tax treatment of research and development was discouraging the development of new technology. In response to this, the Government has examined the question of whether there is under-investment in research and development in New Zealand and if so, why? Other issues being looked at include the tax treatment of research and development in New Zealand and overseas, and the best means of addressing any problems with research and development in New Zealand.

NEW ECONOMY RESEARCH FUND

- \$36 million per annum for new ideas research
- Targeted at knowledge-based industries
- Begins September 1999

POST-DOCTORAL FELLOWSHIPS

- \$7.25 million per annum for kick-starting research careers
- 75–125 fellowships for New Zealand or overseas research

R&D TAX DEDUCTIBILITY

- A review of factors affecting investment in research and development will be undertaken by March 2000

These issues are complex and warrant further analysis and discussion with the private sector. The Government will undertake a review of factors affecting investment in research and development in New Zealand. Key members of business, education and research sectors will be consulted. A report is expected by 31 March 2000.

CRIs and New Business Opportunities

To ensure the availability of high quality research across a range of important areas, the Government owns a number of Crown Research Institutes (CRIs). These undertake research and promote the use and development of this research. They do this in many ways including selling technology, entering joint ventures, and establishing companies. For example, Industrial Research Limited developed a dynamometer and formed International Dynamometers Limited to commercialise it.

Forum participants stressed, and the Government agrees, that there is greater potential to pursue business opportunities emerging from CRIs. As an owner, the Government will encourage CRIs to maintain their focus on high quality research and to take advantage of increased opportunities to bring their ideas to interested investors.

Many of the issues that the CRIs face when looking to commercialise their research are the same as those faced by other businesses. CRIs do not always have the mix of management and investment skills needed to develop ideas into business opportunities.

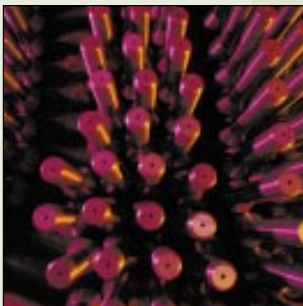
They will therefore benefit from the incubator programme and capital market changes outlined in Chapter 3. The Government is also considering changes to the Technology New Zealand scheme to assist researchers to move their ideas from their laboratories into new business ventures. This is being considered along with the design of the new incubator programme.

Accessing Research Skills

Forum participants noted a need to improve small and medium enterprises understanding of the role of research and development. Small businesses sometimes find it difficult to access research skills. The Internet-based InnovationLink 2010 database will be established to provide support for companies seeking information about research and development in New Zealand – where research can be found, who can help to put it into practice, and sources of funding. The expanded InnovationLink 2010 will be on-line early next year.

ROLE OF CRIs

- Assessing barriers to commercialisation and technology transfer
- Potential for more business opportunities from CRI research
- CRIs will benefit from incubator programme and capital market changes
- Changes to Technology New Zealand scheme being considered



KRUSE CONTROL

Imagine travelling the country with your own personal tour commentary. At selected locations the commentary immediately begins playing in your vehicle, just like a movie soundtrack. As you're driving you can listen to interviews with characters who participated in historical events, options for visits to attractions, evocative sound sequences and music. Sounds too good to be true?

Well, all this is now possible thanks to an innovative new travel guide system that uses the latest global positioning satellite (GPS) technology. The system has been developed by Kruse Production Limited, a small Auckland-based company, in conjunction with Industrial Research and Technology New Zealand funding.

The Kruse travel guide system, developed for campervans and rental cars, provides tourists travelling around New Zealand with an automatically triggered audio commentary. Whenever the vehicle passes a commentary "way-point", the computer recognises the location's co-ordinates from a database and automatically turns on the commentary which plays through the vehicle's sound system.

A six-week market evaluation trial of the Kruse system has delivered extremely positive feedback from tourists. The idea for the system originated four years ago, when Jonathan Kruse was asked to fix a CD used in a tour bus. Things have come a long way since then.

Kruse Productions is now developing plans for the system to be used by other parts of the tourism industry in New Zealand. Exports of the system are also possible, with nothing comparable available overseas.



JONATHAN KRUSE OF KRUSE PRODUCTIONS



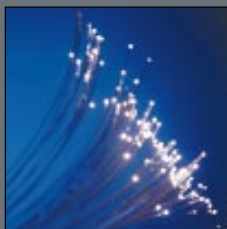
SURFING SMARTER

GlobalBrain.net, a small Christchurch company, has developed a revolutionary new internet search technology that passively learns and customises search results, allowing web surfers to get to the most useful sites more quickly. Along the way it has also learned a thing or two about how to ensure innovative ideas fulfil their commercial potential.

Chief executive, Dr Grant Ryan, says: “Successful commercial R & D is about speed to market.” It’s also about protecting your intellectual property. The company has an extensive series of patent filings covering a large range of applications and features.

And GlobalBrain has worked fast. Less than a year old, GlobalBrain has signed an exclusive deal with American media giants NBC and Snap.com. Snap.com will utilise GlobalBrain technology and engineering resources as a key building block for the development and launch of new, targeted Internet portal services.

Dr Ryan believes that GlobalBrain’s partnership will create more jobs and provide a quality service to Internet users. In addition, the company has 25 small shareholders, mostly in Southland, who will benefit from the deal.

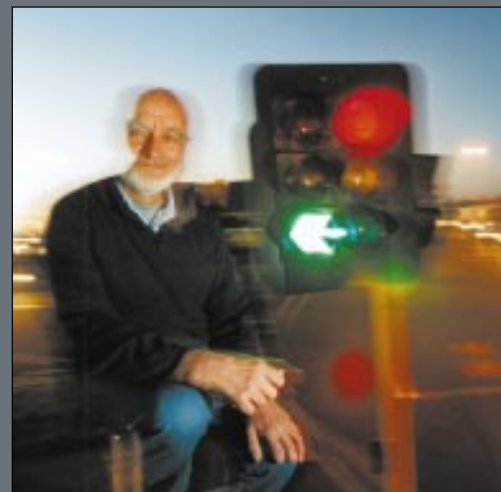


INTELLIGENT TRAFFIC LIGHTS

From its humble beginnings in the mid-1980s, starting as many firms do – in the founder’s garage – Sound Logic Research (SLR) has used innovation to succeed. Its latest project has married the best of electronics, LED (light emitting diodes), sensing and optical technologies into a traffic light that is not only ‘intelligent’ but also offers significant savings on power usage.

“What we have done is to engineer a system that constantly monitors the ambient light outside and adjusts the light coming out of the traffic light accordingly,” says SLR founder Paul Sintes. He states that SLR’s traffic lights can slash power use by 85% and that if all traffic lights in New Zealand were converted, it would mean saving the energy provided by about half of a small dam.

Christchurch City Council is in the process of evaluating SLR’s intelligent traffic lights and initial tests have been most encouraging, Mr Sintes said. Bill Sissons, traffic signals engineer for the City Council, estimates that using SLR’s traffic lights across the city would save the Council \$93,000 per year in power bills and \$38,000 in the annual maintenance costs of traffic lights.



SLR FOUNDER, PAUL SINTES

3

In a knowledge economy wealth comes from enterprising ideas. New Zealanders should be prepared to invest in innovative people. We need to develop greater expertise to assess and action good ideas and attract a lot more local and international investors. New Zealand now has a robust financial sector which is attractive to investors, but to further develop our venture capital market, we must challenge our traditional notions of risk and security.

A person is climbing a large, craggy rock formation. They are wearing a dark jacket and a helmet, and are using a rope and climbing gear. The background shows a clear sky and distant hills.

GOAL

NEW ZEALAND'S CAPITAL MARKETS WILL ALLOW
CAPABLE PEOPLE WITH MARKETABLE IDEAS READY
ACCESS TO THE FINANCE THEY REQUIRE.

CHAPTER 3

Funding Bright Ideas

Funding Bright Ideas

The Way Forward

In a knowledge economy ideas are our biggest asset. However, turning ideas into products and services takes time and money. We need to be able to finance this process so that our most creative ideas see the light of day.

As investors, the challenge is to change our thinking and invest in people with insight and energy. It is these people and their ideas, rather than land and buildings, which, in the long run, will create wealth and provide the best returns. For Kiwis comfortable with traditional ‘tangible’ investments, such as a rental property, this represents a major shift in attitude. We have to reassess our notions of ‘risk’ and ‘security’ and place the greatest value on knowledge-based assets.

New Zealand needs its investment capital market to operate as efficiently as possible. We need to ensure that good ideas are not stifled by an inability to raise capital, or by regulations that impose unnecessary costs or barriers on people looking to raise capital. For example, mandatory disclosure of company information may not be necessary in some cases because the information is superfluous to a seasoned investor.

We have to develop a system that views risk-taking in a positive light. There will always be an element of risk in bringing enterprising ideas to fruition. As investors, we have to get used to this notion – a good idea and capital are not enough; we need the nerve and skill to see our best ideas through. It is important that enterprises and individuals seeking capital have the management capability to acquire finance for marketable ideas. They need to know where and how to raise capital, and how to assess and manage the risks involved. We need to ensure that New Zealanders from all walks of life have access to the skills, knowledge and confidence to attract investment for their marketable ideas.

At the same time, we require people who are skilled in assessing the risk and value of promising ideas. People who can grasp a real opportunity and have the expertise to move it forward. We want more New Zealanders with these skills and we need to draw on international expertise as well.

The aim must be to build a broader base of investors, local and international, supported by investment specialists who recognise the worth of a good idea.

Forum Feedback

The following factors were seen to be inhibiting access to investment capital in New Zealand:

BANK DEBT FUNDING

There was a perception among forum participants that banks were conservative, risk averse and lacked in-depth knowledge to be able to make informed decisions about lending to small firms, particularly the technologically-innovative and higher-risk firms.

Centralised decision-making of banks was seen to compound these issues. Security for equity funding was also identified as a barrier. Banks' lending criteria often demand property or liquid assets, when the assets of many emerging firms are based on knowledge and intellectual property.

Feedback from Māori indicated they have experienced difficulty using jointly-owned land as security for debt finance.

From banks' perspectives, many business proposals reflect poor quality in business planning skills, ie, proposals poorly thought out and presented badly.

Participants considered that banks should develop more of a local customer focus and that there need to be better links with the financial sector.

EQUITY FUNDING

Also widely raised at the forums was the fact that many businesses lacked the skills and understanding to adequately manage equity capital and were reluctant to share or surrender control.

Forum participants also considered that New Zealand lacked a well-developed venture capital market or options to exit equity investments, and that there was lack of information on where and how to access equity capital.



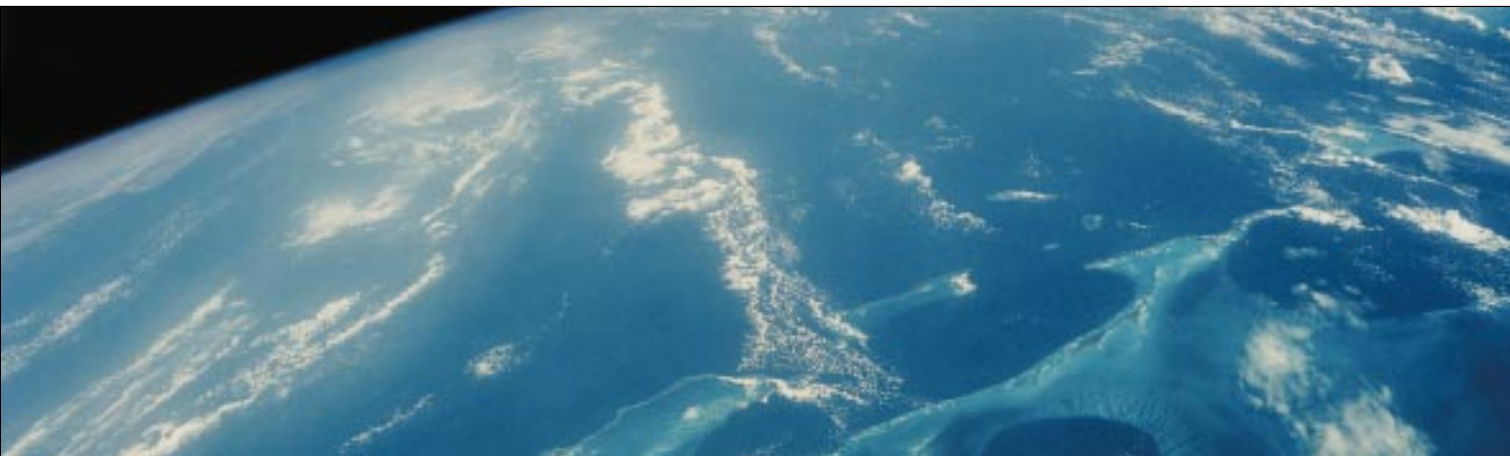
All this calls for much stronger links between our financial institutions and enterprises so that each is clear about the other's requirements. While New Zealand's capital market is growing we need to do more to increase the flow of capital between entrepreneurs, business and investors. As a country, we have to demonstrate much greater confidence in our own ideas and ensure that others view us in the same light. This means promoting ourselves overseas as an innovative economy ideal for international investment.

It is time to build on our efficient capital market so that we can turn our best innovations and ideas into practice.

Progress So Far

Overall, New Zealand's economy is in good shape for increasing investment. Our rates of interest and inflation are amongst the lowest in the world.

New Zealand has also achieved major improvements in developing its financial sector in recent years. This too is essential for attracting investors.



It is important that enterprises and individuals seeking capital have the management capability to acquire finance for marketable ideas.

While New Zealand’s capital market is growing we need to do more to increase the flow of capital between entrepreneurs, businesses and investors.

Our banking industry, for example, is a world leader. Overseas banks test new products and services in New Zealand, because it is seen as a model of a modern, sophisticated banking market. New technologies have paved the way for Internet banking, phone banking and 24 hour access to funds and services. Credit is more widely available to consumers than ever before. Though it is not always appreciated, the reality is New Zealand already has in place a dynamic and highly efficient banking sector.

The equity capital market is also showing a growing confidence and reflects investors’ readiness to back new ideas. Established players such as the Greenstone Fund, Caltech, Direct Capital, and Technology Investment Group have been supplemented in recent times by the launch of No. 8 Ventures, Invest South, and IT Capital, amongst others.

The market itself is also better organised and more robust. Potential investors are much better protected and there has been a 30% rise in the number of company prospectuses registered with the Ministry of Commerce. A range of penalties are now in place to guard investors against deceptive and misleading promotions. All this reflects a growing maturity in our equity sector.

The depth of our equity market remains an issue. Given our small population and the size of our business sector, there will always be natural constraints in size. There are also constraints on the number of investors and brokers with the specialist knowledge to scout out prospective investments. For example, in Silicon Valley California there might be hundreds of Internet carrier ventures for investors to choose from; in New Zealand there are probably only two or three. ●



Forum Feedback

Generally it was felt that there is a ‘risk averse’ business culture in New Zealand, with a geographical and industry investor bias away from smaller centres and unfashionable industries, and negative attitudes towards business failure.

To improve access to equity capital, forum participants suggested that the Government could provide seed or business development funding, tax incentives for investment in research and development, or create a second-tier stock exchange. It was felt that Government needs to ensure industry is better informed about how and where to access capital.

REGULATORY ISSUES

Forum participants raised concerns that tax regulations that distort investment preferences towards property need attention. They also mentioned concerns that:

- The Trustees Act affects the ability of Trusts to invest in risk projects
- The Companies Act and Stock Exchange rules do not favour small investors
- The Te Ture Whenua Māori Act makes it difficult for Māori to use land as security
- Costs associated with the disclosure requirements of the Securities Act are an impediment to small businesses raising capital.

The Next Steps to Funding Bright Ideas

The forums have reinforced the messages the Government has been getting – that there are obstacles to getting finance for bright ideas.

People with ideas lack money; people with money cannot find good ideas to invest in. Taken together, these point to the need for better ways to get the two groups together.

Stock Exchange for Small Businesses

To help small businesses to get their bright ideas in front of investors, the New Zealand Stock Exchange is developing a new capital market. This will list small companies that do not meet the \$5 million threshold required to list on the current stock exchange. The capital market is targeted at companies that are seeking capital of between \$500,000 and \$1,000,000. The NZSE is leading this initiative. The Government will help fund some development costs and will provide skilled staff to assist with the project. The market is expected to be up and running by April 2000.

Linking Ideas with Investors

The trick in bringing investors to ideas is presenting those ideas in the right way and to the right people. That requires specialist skills – skills not often held by those who develop the ideas. The Government will establish an Invest New Zealand incubator programme to make these skills available. This programme will assist people and small businesses with new ideas to access the expertise they need to develop their innovation to the point where they could list on the small business stock exchange. The incubator programme will also help them identify potential investors. The incubator programme will be operational before the time the new capital market is launched.

Lower Costs for Raising Finance

To reduce the cost of raising smaller amounts of capital (including venture capital) the Government will be making key changes to the Securities Act. Forum participants stressed that the Securities Act was a barrier to raising funds. The Securities Act is designed to ensure that investors get the information they need to make good investment decisions. It does this by prescribing the information that must be provided to investors. However this does create costs. For example the development of a full prospectus prior to approaching investors means that companies can spend up to \$75,000 to raise \$300,000.

The Government recognises that some investors are sufficiently experienced and well informed to protect their own interests. It will no longer force issuers to provide costly information when seeking funds from such investors. Therefore the Government will broaden the category of offers that are exempted to include offers to ‘wealthy and experienced’ people or people with appropriate knowledge of the particular investment.



STOCK EXCHANGE FOR SMALL BUSINESSES

- Enables business start-ups to access funding
- Focussed on \$500,000 to \$1,000,000 investments
- Starts April 2000

INCUBATOR PROGRAMME

- Builds skills in business start-ups
- Equips businesses to list on small business stock exchange
- Provides funds for expert assistance

SECURITIES ACT CHANGES

- Reduces costs of raising capital
- Relaxes pre-prospectus advertising
- Exempts offers to informed investors
- Broadens Securities Commission's exemption powers

The current requirement that a prospectus be prepared prior to advertising can act as a barrier to people seeking funds. The Government will also relax pre-prospectus advertising requirements to allow firms to 'test the market' by putting their ideas before potential investors before they have to pay the high costs of a full prospectus.

The Securities Commission can currently exempt certain types of investments from the requirement to provide prospectuses. The Government will expand that power to enable a broader range of exemptions to be granted.

Better Informed Businesses

The forums highlighted a lack of understanding by some people about the role of banks and venture capital providers, and how to get funding for new ideas:

- Many firms are looking to banks to provide high risk start-up funding – this is not banks’ core business. At the end of the day, banks have to protect their depositors’ funds.
- Forum participants said that banks only lend on bricks and mortar security. For their part, the banks stressed that cashflow, a track record, and the experience of the entrepreneur are more important criteria in lending decisions than bricks and mortar. However, people starting new companies often lack these credentials.
- Those investors who are willing to risk their capital on start-up ventures usually seek to gain a share in the on-going management of the company. However many owners of start-up ventures are unwilling to give up any control over their company – even in return for funds.

It was clear from this that more information about different forms of investment and how to develop business proposals is required by small businesses. The Ministry of Commerce produced a Directory of Sources of Capital in 1998 and will update this by the end of November 1999. This will be expanded to include information on the lending requirements of banks and best practice approaches to raising finance.

Māori face unique challenges when attempting to use land as security when borrowing. The Ministry of Māori Development has published a “Guide to Loan Securities” to assist Māori land owners to identify assets, other than land, that can be used when borrowing funds. A Māori Business Start-Up Service was announced in the Budget. It will be launched soon. The service will help Māori find funds for new business ventures, as well as give advice on starting a business.



DIRECTORY OF SOURCES OF CAPITAL

- Available on www.bizinfo.co.nz from 30 November 1999
- To help businesses access the funds they need

Attracting Investors to New Zealand

A further set of initiatives are being developed to build on the current programme to better promote New Zealand to overseas investors and attract inward investment. These include conferences in the biotechnology, software and well-health sectors. They will bring representatives of top international companies to New Zealand to explore investment opportunities. Further information packages are also being developed to provide overseas investors with better information about New Zealand's technology, innovation and research potential and related investment opportunities.

Managing Financial Risk

When a business fails or an individual is made bankrupt, insolvency law determines who gets what and how the risk between creditors and debtors is shared. The allocation of bankruptcy risk can affect the cost and availability of finance for business. So the way the law deals with financial failure matters as much as the way it deals with business promotion and success.

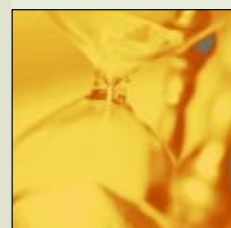
New Zealand's insolvency laws are outdated, complex and may not always meet the needs of modern and sophisticated financial markets. The Government is reviewing both personal and corporate insolvency. Discussion papers on key aspects of the law will be released in early 2000.

ATTRACTING OVERSEAS INVESTORS

- Investor conferences in biotechnology, software and well-health sectors
- Targeted promotion to key investors

INSOLVENCY REVIEW

- Effective insolvency law is vital for efficient financial markets.
- Insolvency law review announced.
- Discussion papers released early 2000.
- More information available at http://www.moc.govt.nz/gbl/bus_pol/bus_law/index.html.



PARTNERSHIPS BOOST CAPITAL

Forging successful partnerships with international customers has enabled Auckland-based engineering company, Mastip Technology to raise more capital and expand its markets.

Mastip produce innovative plastic injection technology. Last year, this technology earned export sales of \$4.1 million in 30 countries, a 57% increase on the previous year. This success was recently recognised with an Export Commendation from Trade New Zealand.

Founded in the early 90s, the company has had to overcome significant hurdles. A breakthrough injection nozzle designed by the Managing Director, Bob Fill, provided the company with the kick start it needed. However, without a trademark or patent, it was quickly copied by a USA company who then started selling it internationally.

The company learnt from its mistake and responded by developing a whole family of nozzles (all patented and with registered trademarks) that superseded those offered by competitors. Exports now comprise 96% of the firm's earnings, with customers including some of the major automotive manufacturers of the world – Ford, Toyota, General Motors, Peugeot and BMW.

The company puts its strong export sales in 1998 and its ambitious growth targets down to a change in strategic focus following their search for capital. Mastip decided to take on partners rather than just financial investors and as a result, Mastip is now in partnership with some of its biggest customers. They include Lugand Industrie, a major European supplier from France and an American company Progressive Components. These partnerships offer Mastip capital and increased opportunities in terms of market exposure and customer base.

General Manager Martin Carlyle says: "Our new partners have a vested interest. They understand the market and understand the product. That will help us achieve our goals and achieve them faster."



BIZ AND BIZinfo

BIZ is the Government's new programme of free business management training services provided throughout New Zealand. Services include cashflow, accounting and financial management training, strategic planning, mentoring and networking.

Complementing the BIZ programme is BIZinfo. BIZinfo is a free business information service for small and medium enterprises. It is made up of call centres, a website and 34 BIZinfo centres throughout New Zealand. These provide information for businesses to steer them in the right direction for advice, training and much more.

BIZ and BIZinfo can be contacted on the nationwide freephone: 0800 4 BIZINFO (0800 42 49 46) or visit the website: www.bizinfo.co.nz

MARINE EXPORT PARTNERSHIP BOOSTS EARNINGS

A partnership of New Zealand marine exporters has helped to raise the profile of the industry overseas and increased its share of the market.

In 1992, with the assistance of the New Zealand Trade Development Board, marine exporters from around New Zealand banded together to form the Marine Export Group – MAREX. The group now has more than 120 members that combine to form a formidable marine export industry, accounting for 85% of the total marine exports from New Zealand.

MAREX was born out of the need to overcome some huge drawbacks, says executive director Lane Finley. The industry was highly fragmented, with individual firms unable to gain visibility due to relatively small promotional budgets. This was compounded by their distance from export markets.

By forming partnerships the industry has been able to share both resources and knowledge. MAREX provides economies of scale in promotional marketing, including a well-linked website. At international boat shows, resources are pooled to obtain a larger floor area and more exposure than could be achieved by any individual firm. At home, resources are also shared, with prime contractors subcontracting work to other marine manufacturers.

The rewards of such a co-operative approach look set to continue. The industry is confidently projecting \$220–\$250 million in foreign exchange earnings next year. All this from a mere \$5 million base just 10 years ago. This success has given MAREX the position of finalist in the New Zealand Trade Development Board's 1999 Export Awards in the category of "Co-operating to Compete".

LANE FINLEY, EXECUTIVE DIRECTOR OF MAREX



I GROW

A new investment company – "I Grow" – has been set up in New Zealand this year to cater for smaller capital raising projects of between \$500,000 and \$2 million. The company is the brainchild of Garlick and Co. broker David Caselli. It follows from a previous project of his, involving the raising of \$400,000 through a separate company AbGrow Pendarves, to invest in abalone.

Mr Caselli realised that there was a market for a focused investment vehicle to raise smaller sums of money across other sectors. The advantage of the I Grow approach is that it makes use of an existing exemption in the Securities Act aimed at making it easier for smaller capital-raising projects. The exemption means that requirements for these projects are less rigid, eliminating the need for firms to generate an expensive prospectus.

I Grow identifies groups of six companies that will have appeal to investors. The companies are then assisted to make themselves marketable through means such as the appointment of well-known local business people as independent directors. Marketing of the investment opportunity is done through local advertising, investment evenings and by encouraging local recognised institutions such as Chambers of Commerce to inform their members of the investment opportunity. In this way, the fund has a wide investor base and investors are contacted in a cost-effective manner. Mr Caselli estimated that raising capital in this way incurs only 15% of the cost for other floats.



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The Government will work more closely with business and other interest groups to understand the impact of its policies. There is room for improvement in the way we design and implement the law. We will spend more time identifying the issues that affect business and properly inform enterprises and individuals about their responsibilities. We want a system that leaves people free to focus on new ideas, rather than government regulation.



GOAL

NEW ZEALAND'S LAWS SHOULD SUPPORT INNOVATIVE BEHAVIOUR. WE WILL ELIMINATE REQUIREMENTS ON BUSINESS THAT CANNOT BE FULLY JUSTIFIED AND IMPLEMENT THE LAWS WE DO HAVE WELL.

CHAPTER 4

Freedom to Innovate

Freedom to Innovate

The Way Forward

New Zealand’s laws must support an economy based on knowledge, creativity and constant innovation.

Ideally, we want our businesses to put their time and energies into creating wealth rather than meeting the requirements of government laws and regulations. Every hour spent filling in forms or researching regulations is time that would be better spent building new business opportunities.

We want to create a business environment characterised by minimum compliance costs (the time and resources that enterprises put into meeting the requirements of a law) and fewer rules and regulations. We need to cut through the red tape and give businesses the freedom to expand and prosper.

We want a fair system where people are clear about what is required of them and are able to easily understand and comply with the law. Currently, the sheer bulk of laws and their complexity has left many small businesses frustrated and confused. In some instances people are not even aware if they are complying with the law or not. In other cases laws are well designed but fall down in the way they are implemented.

How are we going to achieve a fairer and simpler system? By designing laws which minimise costs and reward compliance, by keeping the system as simple as possible and by providing well-targeted information about what people have to do. Information about our laws needs to be simple to understand and easy to access. We must also monitor our laws to see how effective they are and how well they are being enforced.

The Fair Trading Act is a good example of a law affecting business that is working well. It protects our rights as consumers, it has been well promoted and its provisions are readily understood and capable of being complied with at minimal cost. It is well enforced and there is a significant level of awareness and compliance among enterprises.

Good laws promote choice, freedom and the ability to innovate.

Forum Feedback

Forum participants raised many issues about an effective and efficient regulatory regime:

- Improving processes for changing law
- Simplifying the legislative framework
- Improving laws that inhibit innovation
- More consistent interpretation of the law
- More consistent application of the law
- Better information about compliance

IMPROVING PROCESSES FOR CHANGING LAW

Participants felt that the processes for changing the law need to be more effective. Those most affected by proposed changes need sufficient information and time to identify and consider the issues that will impact on them and their business.

SIMPLIFYING THE LEGISLATIVE FRAMEWORK

A second area of concern was the sheer volume and complexity of laws, and the rate of change. Participants felt there was no overarching philosophy for different pieces of legislation. In their view, initiatives are required to reduce the overall burden imposed on individuals and businesses by the regulatory framework. This burden is particularly felt by small and medium-sized businesses which find it difficult to devote time and resources to gathering and using information about the law.

IMPROVING LAWS THAT INHIBIT INNOVATION

The following laws were identified as imposing high costs or inhibiting innovation – the Building Act 1991, the Health and Safety in Employment Act 1992, the Holidays Act 1981 and the Resource Management Act 1991.

Related initiatives are required to lower the burden of taxation,



We also need an eye to the future. We know the way people are doing business is constantly changing as a result of new technology. This trend will only accelerate. It's important that our laws can cope with new information technologies and the opportunities presented by a more open, global economy. For instance, the growth of electronic commerce means increasingly people will be conducting business via the Internet, using features such as electronic signatures to seal agreements or buy products. Current laws, based on people doing business on paper, will have to be adapted to this new electronic environment.

Another key issue is that we are a nation of traders – it's therefore vital that laws are exporter-friendly. We can't have administrative and legal barriers that block new export opportunities, or give overseas rivals an unfair advantage.



We will also aim to protect our best ideas in a global market. We want laws that secure the ownership of new ideas, products and services so that individuals and enterprises reap the rewards of their creativity. In the future this intellectual property – our best ideas and innovations – will be more valuable than our physical assets. It is important that our laws adapt to reflect this.

Progress So Far

Improving our laws is a process of constant refinement. In recent years the focus of government has been to reduce regulation that hindered business opportunities and created unnecessary costs. Domestic reforms, such as those to the electricity market and ACC system, are reducing costs to business and providing greater competition and choice than ever before.

Internationally, through forums such as APEC and the World Trade Organisation, the Government is also working hard to reduce barriers affecting exporters. Meanwhile, as our society has become more complex and our needs more sophisticated, the Government has improved the quality of social regulation in areas affecting our health, safety and environment.

We have come a long way. Think back 20 years to a heavily regulated environment that dictated when you could shop, what you could buy, when you could drink and even, on ‘carless days’, how you could travel. We now enjoy a choice of domestic airlines, telecommunications services, television channels and the convenience of weekend shopping. It’s easy to take these things for granted, but they represent a fundamental shift in how we view the law. It is now accepted that our laws must enhance our economic freedoms and enshrine our rights as well as our responsibilities.

We want a fair system where people are clear about what is required of them and are able to easily understand and comply with the law.

Forum Feedback

improve insolvency and bankruptcy laws, lower the costs of accident compensation, achieve an optimal level of statistical, tax and financial reporting and improve the effectiveness of the intellectual property regime. This last issue is particularly important for Māori seeking to prevent unauthorised use and exploitation of Māori culture.

MORE CONSISTENT

INTERPRETATION OF THE LAW

There was a perceived disconnection between the intention of policy makers and the subsequent execution and interpretation of the law by the Courts or local authorities. There was particular concern about the variability of interpretations by those charged with enforcement. Participants felt initiatives were required to make laws clearer and more credible.

MORE CONSISTENT

APPLICATION OF THE LAW

Businesses require initiatives that allow them choice in terms of compliance, but also provide certainty that compliance has been achieved. They want mechanisms that address inconsistent application of the law, and provide consistent interpretation. Of particular concern was inconsistency in local authority application of the Resource Management Act and Building Act.

Another concern was how some well-designed laws work in practice. For example, the interpretation of the Personal Grievance provisions of the Employment Contracts Act by the Employment Tribunal and Employment Court.

BETTER INFORMATION

ABOUT COMPLIANCE

Participants felt initiatives were required to ensure clear and accessible information was readily available to assist businesses to comply. These initiatives should also help generate more consistent interpretations of the law.

It's important that our laws can cope with new information technologies and the opportunities presented by a more open, global economy.

There has been a significant increase in social legislation, as we have become more conscious of protecting the rights of people and the environment. There are laws now to prevent discrimination and protect our freedom and privacy, laws that promote equal opportunity and safety in our workplaces. Every product we pick up in the supermarket carries labelling information that consumers didn't give a thought to a few years ago. We now expect this information as of right.

This trend is set to continue. The challenge we continue to face is to develop laws which achieve social goals without being an unnecessary burden to business. Finding the balance will not always be easy. In addressing social concerns, New Zealanders should not always look to the law for solutions. In some cases, changing people's attitudes may be the key, rather than more rules.

In the knowledge economy the effective protection of new ideas is crucial. A particular concern at the forums was the ability to safeguard intellectual property rights.

In recent years the Government has been working to make sure that Intellectual Property laws, such as the Trademarks Act 1953, continue to provide adequate protection in a changing business environment. A key part of these ongoing reforms has been to examine the existing regime to determine if it can be adapted to meet the concerns of Māori in this area. ●



The Next Steps to Allowing More Freedom to Innovate

The 5 Steps forums said the Government must do more to improve the regulatory environment for innovative businesses and individuals. The Government has listened to this and the following initiatives are intended to set us down this path.

This is just the beginning. For example, we will need to do more to ensure laws are effectively implemented and enforced. It will take time to get this right as the current body of law is large and complex.

Making Laws Work for Business

A recurring theme was that in creating new laws governments do not take costs to business fully into account. These costs include additional paperwork, the effort needed to understand the law and train staff, and systems required to comply with the law. To provide it with better information on costs during the regulation-making process, the Government will establish Small Business Test Panels.

Test Panels consisting of a cross-section of businesses will be asked directly about how proposed new laws will affect them. Forms and other compliance requirements will be tested by the panels prior to introduction. Their reports will be available to Ministers and Select Committees and will be published. Existing laws that have been identified as creating high compliance costs will also be submitted to Test Panels. An initial trial Test Panel will be held to review and reduce compliance costs for doctors, who deal with multiple government agencies including ACC, PHARMAC, the Health Funding Authority and health insurers.

Removing Redundant Law

The Government is also determined to reduce the volume and complexity of the law through a general tidy-up. Over time many laws have become redundant or out of date. Government departments that administer laws will be required to conduct a cull of regulations. This will aim to remove unnecessary statutes and amalgamate laws where possible. Government wants to achieve a 12–25% reduction in the number of regulations over the next 12 months.

Less Taxing Tax

Forum participants indicated that they were particularly frustrated with tax compliance. The Government wants to target laws that are creating the most costs for business. In the next few weeks the Government will release options aimed at reducing the tax compliance costs for small businesses.



TEST PANELS

- Panels of small business people
- To test how law will work in practice
- For new and existing laws
- Trial on paperwork for doctors

REMOVING REDUNDANT LAW

- All laws and regulations scrutinised
- Target of 12–25% reduction in regulations

LESS TAXING TAX

- Promoting options to reduce the costs of paying tax

Keeping Laws Up to Date

Identifying necessary changes is the first stage in the process of law reform. Changes to existing Acts must also be agreed by Parliament. To facilitate this, the Government proposes to introduce an annual Compliance Cost Reduction Bill. This will allow Parliament to consider amendments to a number of different Acts that create compliance costs for business.

Having tidied up the law, the challenge is to keep it up-to-date. The pace of change in new technology for example, can make laws frustrating and inadequate for doing business. Government departments will be required to consider the use of Sunset and Review Clauses in new regulations. This means that laws would either expire or be reviewed at a specified date in the future, and will ensure that they do not last beyond their 'use by' date.

Better Information

While the above initiatives will go a long way to reducing red tape, the fact is that regulation is a key means to achieving social and economic goals, and is here to stay. A key concern of participants at the 5 Steps Ahead forums, was to have full and timely information on legal obligations. To achieve this the Government will put simple on-line guides to regulations on its BIZinfo website. This may be extended to include the regulations of our major trading partners, initially within the APEC region.

Electronic Commerce

Electronic commerce is revolutionising business overseas and is dramatically reducing costs, especially in the business supply chain. Adopting electronic commerce processes is vital if New Zealand business are to be internationally competitive.

The Government wants to ensure that people using electronic commerce are not disadvantaged in law relative to those using traditional paper-based commerce. For example, documents stored electronically should have the same status as hard copies. The Government has asked the Law Commission to prepare draft legislation looking at the treatment of electronic commerce before the end of September.

The Government is committed to making full use of electronic commerce to reduce the compliance costs of delivering government services. Already the Companies Office on-line registration system has reduced costs to business by 30%.

KEEPING LAWS UP TO DATE

- Annual Bill allows Parliament to amend Acts that impose costs on business
- Sunset and review clauses considered for all new laws

BETTER INFORMATION

- Simple on-line guides to laws on BIZinfo website <www.bizinfo.co.nz>

ELECTRONIC COMMERCE

- Law neutral between electronic and paper-based commerce
- Law Commission reporting at end of September
- Government to make full use of electronic commerce to reduce compliance costs

THE NEW ZEALAND WINE INDUSTRY

In 1956 the Government removed a law which required that New Zealand wine be sold in no less than two-gallon lots (12 bottles). This opened up the market for light table wine and gave a kick-start to a fledgling wine industry.

Twenty years ago, the New Zealand wine industry was heavily protected by tariffs in order to encourage domestic production. The result was over-production of a limited range of low-quality wines, leading to a glut of cheap cardboard wine.

Planned removal of tariffs began in 1986, leading to an influx of cheaper imported wines. Local producers could not compete and directed their efforts towards producing better quality, premium-priced wines for international markets.

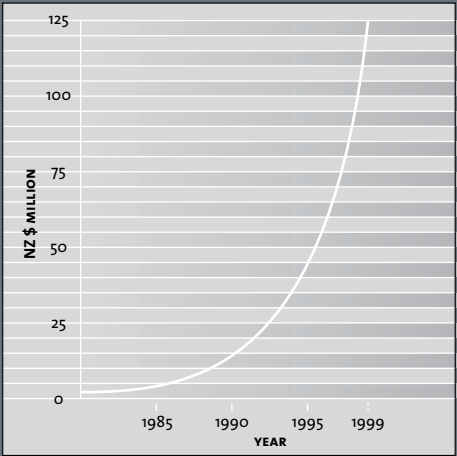
Today, tariffs have all but been removed, and imports have grown from virtually nothing to around 40 percent of the market. Despite this, the wine industry is flourishing.

Over the last decade, total production has risen by 50 percent and wine exports have increased from about \$10 million to over \$125 million annually.

The industry's export success reflects a re-focus on the range and quality of wines produced, care in the construction of an export marketing strategy, and dedicated commitment in developing it.



RIGHT: WINE EXPORTS



BUSINESS REGISTRIES REDUCING RED TAPE

The Government is leading the way in taking advantage of the latest technology to reduce the costs of complying with regulations. Providing services on-line means that more than 80 percent of business registry fees have been abolished or reduced since 1 July 1999, saving business about \$4 million a year. These include fees charged by the Intellectual Property Office, Companies Office, Motor Vehicle Securities Register and the Plant Variety Rights Office.

Of the total 180 fees charged by the business registries, over 150 have been abolished or reduced.

The number of fees charged by the Intellectual Property Office will be slashed from more than 150 to 22, following on from similar large-scale reductions made by the Companies Office in 1996.

Discounts of between 25 percent and 60 percent will also be offered for using the computer-based registration and search services provided by the Companies Office. Company name reservations cost \$15 on-line as against \$25 for manual reservations. The on-line registration of a new company now costs \$70, compared to the \$100 fee for a paper-based registration, and Internet searching will reduce from \$8 to \$4 against a manual search of \$10.

To encourage businesses to use the Internet, the Companies Office, in combination with a financial institution, has developed a means of incorporating credit card payments directly in the business transaction. This means that the credit card information is directly and automatically verified by the bank at the time of the transaction, rather than relying on a second, paperwork process as commonly used elsewhere.

SMOOTH SHOPPING ON-LINE

Goodbye paperwork. On-line shop owners can now invoice their customers and receive payments simply and securely over the Internet, thanks to new software developed by Christchurch company Genex Technology.

The new programme, “eziShop and eInvoice”, provides a unified electronic shopping and credit-card processing facility, using ASB Bank’s highly-rated electronic payment service. This means that businesses can set-up, stock, and administer a ‘virtual’ shop on the Internet. Genex chief executive Bill Haggerty says eziShop is aimed at the 80% of businesses with a smaller range of products that would like a Web presence to market them.

The companion programme, “eInvoice” allows a firm to enter and send invoices to customers on the Net, which customers can pay for directly by credit card.

“Some suppliers offer software to run an Internet shop, others do software for the bank connection. We do both,” says Bill Haggerty.



5



New Zealand needs to do more to encourage individuals and groups to strive for excellence. We want to recognise and reward top achievers and foster more positive attitudes towards risk-taking and the possibility of failure. As a nation, we must build a culture that values success and supports and retains talented people.



GOAL

SUCCESS AND THE ACHIEVEMENT OF EXCELLENCE
IS SOMETHING EVERY NEW ZEALANDER STRIVES
FOR AND CELEBRATES

CHAPTER 5

A Spirit of Success

NEW ZEALAND FILM MAKER PETER JACKSON

A Spirit of Success

The Way Forward

New Zealand needs a culture of success that encourages creativity and innovation at all levels. Government policy alone will not achieve this. It is up to New Zealand companies, communities and individuals to foster positive attitudes towards risk-taking, high achievement and excellence.

As part of this we will celebrate success and find ways of rewarding achievers. As much as innovation, we need motivation. People must be motivated to go on learning, to work smarter and fulfil their potential. What's at stake is not just an individual's satisfaction and livelihood but the prosperity of our nation.

A culture of success is not just about feeling good about ourselves. It's about being competitive by constantly striving to do our best.

As well as rewarding success, we need to develop more mature attitudes towards failure. Failure is so often the route to success in any field of endeavour. Fear of failure will prevent us taking the risks which are essential to realising our best ideas.

The alternative to striving for success is to tread water and accept mediocrity. How much potential goes untapped because of negative peer pressure and a reluctance to stretch ourselves?

We must harness the energy and creativity of New Zealanders and embrace diversity. We need a shared vision of what's possible and what each of us can contribute.

“The good news is that New Zealand entrepreneurs have a window of opportunity right now not only to gain success individually, but to help create a worldwide perception of this nation as a provider to the world of innovative technology.” – Kel Marsh

Business Development Specialist

Forum Feedback

Regional forum participants identified five key issues relating to building a culture that promotes success and supports innovation. To achieve this, we need to:

- Define and promote a flexible model of success that is applicable across a broad range of endeavour
- Equip individuals with the knowledge and skills to succeed
- Foster in New Zealanders the beliefs, attitudes and values needed for success
- Build an environment that supports innovation
- Celebrate success.

DEFINING AND PROMOTING SUCCESS

Forum participants agreed that how success is defined will vary according to social, cultural, and economic factors. The challenge for New Zealand is to promote success as something that is attainable for all, at different levels and in different ways, and is therefore worth striving for by all. Our culture needs to define a successful individual as someone who achieves to their potential, and achievements need to be valued across a broad range of endeavour – including cultural, educational, scientific and technological fields.

EQUIPPING INDIVIDUALS TO SUCCEED

Participants felt that not only is it important for our education system to give New Zealanders the specific knowledge and skills they need for employment, but also that education should actively build confidence and promote risk-taking and innovation. In addition to equipping people with the basic skills they need, school should also make people aware of the needs of enterprises and the 'real world' in general.

FOSTERING THE BELIEFS, ATTITUDES AND VALUES NEEDED FOR SUCCESS

One of the strongest messages from forum participants was that it is vitally important that the right beliefs, attitudes and values need to be fostered in New Zealand if we are going to have a culture of



Progress So Far

Every year public honours are awarded to Kiwis who have made outstanding contributions to New Zealand – in business and the arts, in music and sport.

Innovators as well as sports stars deserve recognition. This year the achievements of Tait Electronics in the field of technology and manufacturing were recognised when founder Sir Angus Tait was awarded a knighthood. Tait Electronics has become the largest electronics research and development group in Australasia. It sells more than \$150 million worth of mobile radio equipment every year and 90% of its products are exported to more than 80 countries.

It is important that New Zealand celebrates and promotes innovative success stories such as this to inspire others. While Government can recognise achievement at a national level, more needs to be done to foster positive attitudes towards success throughout the community.



Forum Feedback

success. Participants felt that some prevailing values tend to act as barriers to this in New Zealand.

One perception, for example, was that New Zealanders tend to fear failure, which acts as a deterrent to risk-taking. Parents and teachers need to counter this tendency by providing opportunities for young people to take risks and make decisions in order to learn to handle failure in a positive manner.

Forum participants felt that New Zealanders also tend to lack confidence and underestimate their abilities – attitudes that can also serve as barriers to success. Like the fear of failure, these attitudes need to be changed by modelling more positive behaviours that encourage people to take risks and perform to their full potential.

A number of values that are quite pervasive in the national culture need to be taken into account when trying to foster success. These include the 'tall poppy syndrome' which inhibits appreciation of success in others and a 'dependency mindset' which discourages New Zealanders from seeking success in their own right. While values like these need to be overcome, other values, such as individual responsibility can be positive influences on New Zealanders' attitudes towards success and should be nurtured.

We also need to ask what New Zealanders want out of life and integrate these values into our vision for a prosperous future. We need to consider how we can increase our standard of living while maintaining what we cherish about the New Zealand lifestyle – things like our unique natural environment, and enough leisure time to appreciate it.

SUPPORTING INNOVATION

It is important that New Zealanders nurture innovation and creativity. The forums pointed to a number of areas that need to be addressed so that we create a national culture that is supportive of innovation and gives



“To my mind, the important issue is the development of a national culture that values scientists, technologists and engineers above accountants and lawyers.” – Dr Geoff Page
C.E. Industrial Research Limited

In recent years the Government has established a competitive business environment which recognises and rewards top performance. Reforms to import licensing and tariff laws, for example, have opened markets up and made entrepreneurial opportunities available to everyone. Other policies such as the Government’s employment strategy aim to encourage greater personal responsibility and independence.

There has also been an increase in awards and scholarships designed to recognise excellence in many diverse areas. For example the Trade New Zealand Export Awards, the Top Scholar student awards and the Young Farmer of the Year.

However we have a long way to go. We rally behind our sporting heroes but are often quick to desert them when they fail. A few months ago the public were writing off the All Blacks; now we are singing their praises. In reality, the All Blacks are a world class team and deserve more enduring support. It’s up to each one of us to believe in ourselves and in each other. ●

“People have ideas and innovate, not computers, equipment or facilities, necessary as these are. People – scientists, engineers, designers, etc – must be encouraged, rewarded, recognised and retained.” – Forum submission

Forum Feedback

everyone the support they need to be successful. Forum participants highlighted three obstacles that need to be overcome to achieve this aim. First, they felt that in smaller, less populated regions of the country, there was a perception that economic decline and structural changes were forcing people to leave the region if they wanted to be successful. There need to be initiatives to support innovation across the country, not just in the main centres.

It was also felt among Māori that current systems to support the development of a Māori business culture were inadequate and needed to be strengthened and Māori people need to aspire to greater development.

Third, participants felt that over-regulation was a problem which tended to inhibit creativity rather than support it. The need to comply with regulation should not be so burdensome as to limit the time available or the inclination for innovative thinking. Rather, the regulatory environment needs to support success, and not penalise failure to the extent that it discourages risk taking.

CELEBRATING SUCCESS

Forum participants expressed the need for a national vision that promotes and celebrates success. New Zealanders tend to have a ‘team ethos’ – we are more comfortable supporting success in team activities in sports, for example, than we are in celebrating individual success. We need to reorient this tendency, to celebrate success whether it results from group or individual effort. This kind of supportive environment needs input from all parts of society. In particular, forum participants highlighted the need for leadership that values success at national, regional and local levels, for people who have been successful to act as role models, and for the media to play its part in celebrating success.

The Next Steps to Encouraging a Spirit of Success

New Zealand needs to celebrate excellence and achievement. We all have a part to play in developing a spirit of success. The Government has a key role in providing leadership, promoting role models, and encouraging New Zealanders to lift their heads up high. The following initiatives are designed to do this.

Strategic Leadership

Feedback from the 5 Steps Ahead forums emphasised that New Zealanders want national leadership that develops and promotes a shared vision for our future. To achieve this, the Innovate New Zealand Council will be established. The Council will help to create a common view between the Government, education, research and business sectors about the key issues impacting on business growth in New Zealand. Their view will inform decision-making by the Government and New Zealanders in general.

The Council will be selected from leaders within business, education and research sectors. People will be chosen for both the contribution they can bring to the Council and their ability to communicate the shared vision.

Recognising Excellence

An important part of encouraging innovation and excellence is recognising and rewarding outstanding achievement. We need to promote national and local role models of successful individuals across society, and to develop a shared ownership of success as part of an entrepreneurial culture for New Zealand.

The Prime Minister’s Awards will recognise excellence in achievement in science, technology, innovation and enterprise. They will include an award for the most enterprising Māori business to promote Māori role models. The awards will be made annually.



PROMOTING A SHARED VISION

- Formation of Innovate New Zealand Council
- Developing shared views of New Zealand’s future

PRIME MINISTER’S AWARDS

- Recognising excellence across society
- Targeting science, technology, innovation and enterprise
- Awarded annually

Building and Maintaining Links With New Zealanders Overseas

Because of our small size some New Zealanders may not always find the specialised opportunities they are looking for in New Zealand. We want to encourage successful New Zealanders who are currently overseas to return home. If they remain abroad, we want them to maintain links and networks with New Zealand and share their knowledge of international markets, latest innovations and business opportunities.

To facilitate this, the Government will establish a web-site and newsletter to reach successful New Zealanders overseas. It will be regularly updated to provide the latest and most relevant information on the New Zealand economy and business opportunities and developments.

Promoting Success

To get ahead we need to encourage success. The Government wants tall poppies to bloom. To do this we need to communicate the value of knowledge, the importance of science, technology and enterprise, and the need to develop positive attitudes towards striving for excellence and achievement, and towards celebrating our successes.

To help communicate this shared vision for New Zealand in the twenty-first century, a promotional campaign will be developed.

NEW ZEALANDERS ABROAD

- Building networks with successful New Zealanders overseas
- Web-site and newsletter to be launched

PROMOTING SUCCESS

- Encourage success through raising awareness

WORKING WITH SYNERGY

Synergy International Limited, a Wellington management consultancy firm, was the winner of the National 1998 Business Development Quality Award.

Synergy specialises in bringing clients' technology processes into line with their business objectives. The company has doubled in size in the last year from 50 to 140 staff as companies upgrade their IT systems to gain a competitive advantage.

The most important element for Synergy is people. "People are our business," says David Irving, Synergy's chief executive. "We understand business and the paired role of management and technology. It's the combination of people and methodologies that helps businesses run more smoothly. If we gain our clients confidence, then we've a much better chance of providing what they have in mind."

For this reason, staff are the key priority for Synergy. They work hard to recruit the right staff by using both management and staff as interviewers, and after three months offer staff shares in the company. Staff turnover is low because staff satisfaction is high. And moreover, "happy staff do good work for clients," says Mr Irving.



DAVID IRVING, SYNERGY'S CHIEF EXECUTIVE

5: A SPIRIT OF SUCCESS

HIGH FASHION HEADLINES

The impact that local, knowledge-based firms can have in a global marketplace is well illustrated by the success of high fashion boutique label Zambesi.

The company is run from Auckland by directors Neville and Elisabeth Findlay. The first Zambesi store opened in Auckland 20 years ago, and the label now sells offshore to Australia, the USA and Europe. Zambesi set the standard in local design years ago and has proved that such export innovation is sustainable over time.

This year Zambesi were invited to strut their stuff at the London Fashion Week, one of the most prestigious and competitive fashion events in the world. Such high praise is backed by the label's success as a proven export leader, generating around two million dollars in foreign exchange over the past year. In recognition of this Zambesi was awarded a Trade New Zealand export commendation.

The Zambesi style is fashion-as art. Commitment to individuality of design accounts for the ongoing success of the label in a fickle fashion industry where the next big thing is always the best. Neville Findlay says that in export terms the high fashion label just keeps growing. "We expect our Northern Hemisphere sales to double over the next twelve months."

Glen Candy of Trade New Zealand says "one of Zambesi's greatest contributions to the export of apparel and other designer items from New Zealand has been to demonstrate that we have designers who can foot it with the best in the world when they sell offshore. They are at the forefront of a new and growing image for New Zealand design exports of all kinds – not just clothing."



Next Steps Summary

1: The Next Steps to Learning to Excel

TOP TEACHER DEVELOPMENT

- To extend skills of top teachers in science, maths, enterprise and technology
- 30 additional full year study awards each year
- 30 additional fellowships each year
- \$10.2 million additional funding over three years
- Professional development in gifted education for teachers

UNIVERSITY BURSARIES SCHOLARSHIPS

- Targeting top students in science, maths and technology
- Up to 1200 awards each year of \$500
- Up to 90 awards each year for all round top students ranging from \$2500 to \$8000
- In place for 1999 Bursaries exams
- \$1 million cost per year

DEVELOPING FUTURE ENTREPRENEURS

- To raise entrepreneurial skills in school children
- To encourage more partnerships between enterprises and schools
- \$1 million over three years available from January 2000

ENTERPRISE SCHOLARSHIPS

- Jointly funded with industry to increase pool of specialist skills
- For advanced study, jointly agreed between student, education provider, and enterprise
- 500 scholarships (2000) rising to 1500 (2002)
- Government contribution up to \$20 million annually by 2004

DOCTORAL SCHOLARSHIPS

- To help our best and brightest to be the best in the world
- For top doctoral students
- Up to 80 scholarships each year for study in New Zealand or overseas
- Cost of \$10 million each year
- Worth around \$40,000 each per year

LESS COSTLY LOANS

- To reduce the costs of loans to students
- Up to 25% of student loan real interest payments will be written off while the student is borrowing
- Up to 50% of repayments (after adjustment for inflation) will go to repay the principal when the student is no longer borrowing
- The formula for setting the student loan interest rate will be revised and results will be available early next year

HIGHER LEARNING SECTOR TASKFORCE

- Develop a widely accepted vision for the future of the tertiary sector
- Establish a clear agreement on responsibilities for how to implement the vision
- High level taskforce to lead the process
- Expected to report by June 2000

ENTERPRISE EDUCATION TASKFORCE

- Recognition of need to constantly upgrade our skills
- Responsibility for skills development rests with both employers and employees
- High level taskforce to consider the best way for Government to assist
- Expected to report by June 2000

ADULT LITERACY STRATEGY

- To be announced in the next few weeks

MORE FLEXIBLE QUALIFICATIONS

- White paper to be released in September/October 1999

2: The Next Steps to Generating Good Ideas

NEW ECONOMY RESEARCH FUND

- \$36 million per annum for new ideas research
- Targeted at knowledge-based industries
- Begins September 1999

POST-DOCTORAL FELLOWSHIPS

- \$7.25 million per annum for kick-starting research careers
- 75–125 fellowships for New Zealand or overseas research

R&D TAX DEDUCTABILITY

- A review of factors affecting investment in research and development will be undertaken by March 2000

ROLE OF CRIs

- Assessing barriers to commercialisation and technology transfer
- Potential for more business opportunities from CRI research
- CRIs will benefit from incubator programme and capital market changes
- Changes to Technology New Zealand scheme being considered

INNOVATION LINK 2010 DATABASE

- On-line database for research and development information in New Zealand

3: The Next Steps to Funding Bright Ideas

STOCK EXCHANGE FOR SMALL BUSINESSES

- Enables business start-ups to access funding
- Focussed on \$500,000 to \$1,000,000 investments
- Starts April 2000

INCUBATOR PROGRAMME

- Builds skills in business start-ups
- Equips businesses to list on small business stock exchange
- Provides funds for expert assistance

SECURITIES ACT CHANGES

- Reduces costs of raising capital
- Relaxes pre-prospectus advertising
- Exempts offers to informed investors
- Broadens Securities Commission's exemption powers

DIRECTORY OF SOURCES OF CAPITAL

- Available on www.bizinfo.co.nz from 30 November 1999
- To help businesses access the funds they need

ATTRACTING OVERSEAS INVESTORS

- Investor conferences in biotechnology, software and well-health sectors
- Targeted promotion to key investors

INSOLVENCY REVIEW

- Effective insolvency law is vital for efficient financial markets.
- Insolvency law review announced.
- Discussion papers released early 2000.
- More information available at http://www.moc.govt.nz/gbl/bus_pol/bus_law/index.html

4: The Next Steps to Allowing More Freedom to Innovate

TEST PANELS

- Panels of small business people
- To test how law will work in practice
- For new and existing laws
- Trial on paperwork for doctors

REMOVING REDUNDANT LAW

- All laws and regulations scrutinised
- Target of 12–25% reduction in regulations

LESS TAXING TAX

- Promoting options to reduce the costs of paying tax

KEEPING LAWS UP TO DATE

- Annual Bill allows Parliament to amend Acts that impose costs on business
- Sunset and review clauses considered for all new laws

BETTER INFORMATION

- Simple on-line guides to laws on BIZinfo website www.bizinfo.co.nz

ELECTRONIC COMMERCE

- Law neutral between electronic and paper-based commerce
- Law Commission reporting at end of September
- Government to make full use of electronic commerce to reduce compliance costs

5: The Next Steps to Encouraging a Spirit of Success

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Contact Details

5 Steps Ahead
Ministry of Commerce
PO Box 1473
Wellington
<http://www.stepsahead.org.nz>

