NSW DEPARTMENT OF STATE AND
REGIONAL DEVELOPMENT

PATHWAYS TO COMMERCIALISATION

CASE STUDIES FROM NSW

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The following recent case studies are drawn from the experience of the NSW Department of State and Regional Development in assisting firms seeking to commercialise new technology through three of its programmes, the Australian Technology Showcase, the Innovation Services Program and the BioBusiness Program. These case studies show the broad range of innovations that have been supported by initiatives from the NSW Government.

AUSTRALIAN TECHNOLOGY SHOWCASE (ATS)

The ATS, developed by the NSW Department of State and Regional Development in the context of the Sydney 2000 Olympic Games, has proved a successful vehicle for promoting local innovative businesses and generating local and international business opportunities for them. Over 400 companies across Australia (but predominantly from NSW) are now associated with the ATS. With support from the ATS, a number have transformed themselves from small regional companies serving niche domestic markets to significant exporters showing substantial growth.

In nearly all cases, the technology being marketed has been developed in-house, commonly by the company owners, though in a few cases, companies are commercialising intellectual property developed by publicly funded research organisations such as the CSIRO.

Support available from the ATS includes listing on the ATS web site, access to specialised advice, including help with accessing other sources of support, participation in a broad range of promotional and skills development activities, and, subject to satisfying relevant criteria, access to NSW Government funds to support export activities. Networking events build confidence among innovators as they interact with others facing similar challenges.

Several ATS companies are profiled below. These profiles indicate the range of issues such companies commonly face, including development of intellectual property, securing developmental finance, entering into strategic alliances, delineation of markets, including international ones, and the establishment of export operations. A number of ATS companies maintain that the ATS 'badge of approval" has been a very useful tool in securing credibility overseas.

TECHNITUBER

Technico Pty Ltd is an Australian agri-biotechnology company located at Moss Vale in the Southern Highlands of NSW. It has been a member of the Australian Technology Showcase program since 1997 with its *Technituber* seed potato production technology. This technology reduces the time taken to produce economic volumes of seed potatoes by at least half through the use of disease-free, high productivity and low cost tissue culture technology.

The company began commercial production of large scale seed potatoes for the processed food industry in 1995 and is now a major supplier to multinational processed food companies. Technico supplies seed potato for potato chip (French fries) production to multinational Frito Lay for its fast food operations and for

production into frozen products for the retail market by international food processors Simplott and McCain. The establishment of the relationship with Frito Lay was a crucial step in the development of the company and the technology.

Technico has 100% owned subsidiaries in China, India, Canada and Jordan, an annual global turnover around $1 million and 15 staff at Moss vale and 350 in total world wide. Technico has been supplying seed from India and China together with agronomy support assisting targeted large seed companies to experience the benefits of its technology. It is supplying product to the Middle East from India at a price and quality advantage over European competitors.

Technico has had significant public sector assistance, including an ATS Export Grant in 1999, an AusIndustry business diagnostic and assistance with the development of a business plan.

HRWORKBENCH

Newcastle-based ATS member HRworkbench has developed an Internet-based multilingual system called *Questionnaires Online* which streamlines and simplifies the assessment of survey questionnaires.

Questionnaires Online is able to manage a range of survey processes including 360 Degree Questionnaires, Organisational Surveys and Psychometric Instruments. Clients can adapt Questionnaires Online to their own requirements. The software incorporates an Administration System which allows users to create, upload and track their own questionnaires in as many languages as they like. This technology is a significant new way of delivering surveys, collating responses, data processing and reporting survey results.

The 360 Degree model which gives a complete picture of an employee's workplace performance, and psychometric tools which assess personality and behavioural characteristics, are two common processes used by HR consultants. The marriage of these techniques with the Questionnaires Online technology provides an efficient and professional management system.

The global market for Questionnaires Online is expected to be more than $7.5 million within a few years. Questionnaires Online has worldwide potential because of its multilingual nature and has already been incorporated into HR management procedures in Belgium, Sweden and Turkey. Current languages offered include English, Swedish, French, Dutch, German, Norwegian, Spanish, Italian and Danish.

Following the display of its technologies at the 2004 CeBIT communications conference in Sydney, HRworkbench generated business valued at around $80,000.

PERMODRIVE

Permodrive Pty Ltd has developed a regenerative energy and braking system for trucks. Its pathway to commercialisation took it from prototype research in a shipping container on the NSW North Coast, funded by its three inventors, to a licence with a global vehicle manufacturer for both commercial and military development. Permodrive was accepted into the ATS in 2000. DSRD and the ATS provided substantial early support, with assistance with promotions, exhibitions, media and networking.

The technology has global market potential. World wide, heavy vehicle fleets number in excess of 40 million. Energy losses in braking raises fuel consumption and

exacerbate emissions. It is estimated that 16% of global greenhouse gases emissions come from heavy vehicles. Permodrive captures and then re-uses the wasted energy using a hydraulic system, leading to major fuel and emission savings.

Unable to secure financial backing (the inventors slept in the back of a borrowed truck while travelling the Australia east coast looking for institutional investment and used the DSRD board room in Sydney for presentations), the technology was reported saved by investment from the local community ("family, friends and fools").

Further growth depended on finding a strategic partner. Dana Corporation in the United States, a major truck manufacturer of heavy vehicles, is now licensed to develop the technology. Potential customers include the US Army which runs a fleet of 225,000 trucks. According to recent reports, Dana is working with the military and other partners to incorporate Permodrive into its "Intelligent Hydraulic Drive" system for medium tactical vehicles.

INNOVATION SERVICES PROGRAM

The NSW Department of State and Regional Development offers inventors and small business innovators support to commercialise their innovations. Any original concept, new or improved device, product, material, business process or service that falls within the definition of innovation, is considered for assistance at NSW Innovation Advisory Centres.

These Centres offer access to free self-assessment software; free commercialisation advice and referrals; and low-cost technical assessments and market reviews. The website www.ausinvent.com that provides access to self-assessment software, innovation advice and support, relevant news and events, a virtual exhibition space, and links to other innovation websites.

Some case studies drawn from the Innovation Services Program are listed below. Of particular interest is the motivation which lay behind each technological development and the market which the proponents saw for their innovation.

FLOWERS ALL HOURS

Entrepreneur Lisa Hayden's background in the IT industry, together with marketing, administrative and training experience in floristry, helped her to identify a significant market gap. She knew that although up to 95 per cent of floral gifts are impulse purchases made at all times of the night and day, most flowers sold after-hours are poorly presented bunches that generally only last two or three days.

Lisa saw an opportunity to create a vending machine stocked with floral arrangements created by qualified florists, stored in controlled conditions to ensure optimum freshness, and available for purchase around the clock. The machine would be IT-enabled for credit card payments and centralised stock control, and have a touchscreen for ordering deliveries worldwide.

Lisa believed her idea had strong business potential, but could not see how to realise it until her CentreLink advisors suggested she contact the Chatswood Innovation Advisory Centre (IAC). In September 2002, the IAC helped Lisa apply for the Federal Government's *New Enterprise Incentive Scheme* program, which provided her with a 12-month living allowance while she developed her business and acquired business knowledge through skills training.

Neil Davidson, manager of the IAC, provided Lisa with guidance about patent and trademark protection, to ensure that her innovation was protected. Lisa was also

matched with a mentor who advised her on legal and intellectual property contacts and other relevant government programs. 'For the first year I reported back every three months about how I was going, and I could always call my mentor whenever I needed.' Lisa was also supported in preparing a business plan, which was then reviewed by an independent business panel. 'They provided some very valuable feedback.'

Lisa's work on her business plan helped her prepare a strong application for the 2003 Yellow Pages® Business Ideas Grants, in which she won the $70,000 award for Best Idea Concept Stage in September 2003.

Lisa launched the Flowers All Hours web site in May 2004. The touchscreen unit for the Flowers All Hours Floral eKiosk is about to be trialled at selected airports, crematoria, garages, hospitals, retirement villages and shopping centres. A prototype of the vending machine is being developed.

'All the services I've received from the IAC have been free, and all the contacts that have come through the IAC, including my lawyer and my insurers, have all given me discounted rates. I've now finished my 12 months training, but still keep in contact with the BEC Northside – it's very much an ongoing relationship. So that I can continue to learn and grow I've now joined the Women in Business Mentor Program of the NSW Department of State and Regional Development.'

SAFETY POLE

Bob Richards has worked in the roofing industry for more than 30 years. After witnessing a young fellow worker suffer a particularly serious fall one day in 1988, Bob became determined to find a cost-effective and user-friendly way of keeping roofing workers safe. Traditional safety-ropes and "roof fences" provide incomplete protection, and compliance rates are poor.

Bob decided to use the type of fall arrestor used in mineshafts. This consists of a parachute harness attached to a cable that works like a car safety belt – reeling easily in and out until pulled sharply, when it brakes within 300 mm. Because fall arrestors are designed to be hung downwards, Bob rigged up a vertical pole to provide an elevated anchor point. This was the first of many steps that led to the development of the Safety Pole – a telescoping aluminium and stainless steel pole mounted on a truss or rafter, which extends 1.3 metres above the roof line and is topped with a pierced cap that spins around on nylon bushes.

By 2001, Bob had a good working prototype. He took it to a patent attorney who suggested contacting the NSW Department of State and Regional Development for advice and assistance with commercialisation. The Department referred Bob to the Hunter IAC, operated by the Industry Development Centre - Hunter. The IAC provided advice on intellectual property protection, and began researching and collating relevant market information. It also put Bob in touch with a commercialisation expert, who began working with him on a fee-for-success basis and has proved to be an exceptionally valuable resource.

With the help of the IAC, Bob demonstrated the Safety Pole prototype to WorkCover, the Master Builders' Association and local councils, and participated in the Hunter and Central Coast Technology Expo in November 2002. This generated considerable publicity and interest from major building companies. The commercialisation expert approached companies to become prospective partners to take Bob's project further. As a result, Bob signed a three-year licensing agreement with *Life and Rescue International Pty Limited (LRI),* a Newcastle company with strong manufacturing capabilities and marketing expertise.

LRI has established the Safety Pole as the only safety device, certified to anchor safety ropes by two people and rated to withstand a 2.1-tonne impact. Two models are now being produced and marketed: the temporary model for tradespeople, and the vent pole model – it also functions as the building's mandatory sewer gas ventilation pipe and provides the permanent roof anchorage now required by legislation.

Increasing numbers of Safety Poles are now being fitted on government and private buildings around Australia, and worker acceptance is high. "If the Safety Pole saves just one life, I'll be satisfied," says Bob, who is full of praise for the encouragement and support he has received from the Hunter IAC. "They're there to help, and have been magnificent."

POLO HANGER COMPANY

As one who appreciates quality clothing and its care, Paul Yanoutis that there was a gap in the market for appropriate hangers for designer garments that could travel easily. This was particularly so for the hanging of narrow necked garments made of fine or knitted fabric. Paul's first move was to establish patent protection and design and trademark registrations. With his intellectual property secure, he was then ready to approach designers, engineers and potential partners.

His patent attorney advised the value of contact with the Sydney IAC, supported by the NSW Department of State and Regional Development. At a seminar Paul met another Sydney Business Enterprise Centre, who showed great interest in his invention. They are now in a preliminary discussion phase, with a view to export. Paul has had feedback that his product will do well in the Japanese market, and is about to tap into government export assistance programs.

"My involvement with Sydney IAC has led to offers of interdependent partnering activities and introductions to production designers, web developers, distributors, fashion professionals and management groups".

Contact with the IAC introduced Paul to Innovation Advisor, Stuart Fox, who is the President of the Australian Inventors Association. Paul says, "Stuart gave me the confidence to continue, given the investment I had made in the design and development stages".

Calling on an industrial designer, an initial design was developed. The recommended material of construction was ABS plastic. Paul used a rapid prototyping centre in Queensland to produce two nylon prototypes at a cost of $3,000. The refined model was tooled and manufactured in Sydney.

Available in the market place since early 2003, Polo Hanger's Sydney outlets include Gowings, Peter's of Kensington, Howard's Storage World, Opus and Nuance at Sydney Airport. Whilst offshore manufacture could save him money, Paul has been keen to maintain all phases of production in Australia. At the same time, he has been able to introduce an affordable product for under $10.

BIOBUSINESS PROGRAM

The *BioBusiness* program is a central element in the NSW biotechnology strategy known as *BioFirst,* which aims position the state as a leader in biotechnology and maximise the social, environmental and economic benefits of this sector for the people of NSW. The BioBusiness program recognises that while the industry's technology driven, there are business challenges to be met in growing the individual enterprises that make up the industry.

A company eligible for assistance under the BioBusiness program must be NSW-based, operating as a for-profit company with significant private ownership, and already in the market or have a product/project being developed for commercialisation or be involved in basic, strategic or applied research with demonstrable commercial potential.

The BioBusiness program provides

- assistance with non-research establishment costs
- assistance with "proof of concept" research (this program complements the Commonwealth Governments Biotechnology Innovation Fund)
- assistance with development of leadership and managerial skills

In addition, assistance can be offered through the Department's *High Growth Business Program*, the *Australian Technology Showcase* and the *New Export Opportunities Program* which assists with trade missions and market visits overseas.

A number of case studies of NSW-based biotechnology firms are attached. These not only illustrate the different paths to commercialisation taken by these firms but also the variety of assistance provided by the Bio-Business and other NSW Government programs.