5. Product success stories

BattleModel

BattleModel was born out of a need for a fast and reliable simulation tool to evaluate different defence-related technologies, These days the software program's versatility and potential for wider applications is turning heads across the world.

BattleModel is not actually a model but a framework for connecting model components together, including 'agents', which are artificially intelligent systems that model human operators' thought patterns at a tactical level. Its 'field test' was in a tender evaluation where it had to assess three competing technologies within a compressed time-frame and with a Defence investment worth billions of dollars riding on the final decision.

And while BattleModel was originally created to support defence organisations in acquiring and upgrading capabilities and developing tactics, it could in the future help top corporations evaluate acquisitions and other critical decision scenarios.

Ian Lloyd, head of mission and campaign analysis at DSTO, says that the tender evaluation had to be run on a very reliable, very efficient infrastructure.

'One of the constraints was that we wouldn't be getting the detailed information we needed to model the components until a very short time-frame. So we had to have a separate framework and models that we could populate with data and plug-in.'

With only a few months between delivery of the data and completion of simulations on the three tendered products, Mr Lloyd says it was crucial that the BattleModel framework ran reliably and efficiently.

DSTO analysts at the organisation's offices in Fisherman's Bend, Melbourne, had initiated development of the BattleModel simulation framework. But the realisation that enormous resources in time and expertise needed to be spent developing and maintaining the system led the organisation in 1998 to contract the further development of BattleModel to a group of software engineers.

The group, together with David Chidgey, an expert IT manager consulting to Telstra, formed a company called KESEM International.

The development team was lead by Dr Gil Tidhar, a former member of the now defunct Australian Artificial Intelligence Institute (AAII) who was teaching software project management at the University of Melbourne and whom Mr Lloyd had met while Dr Tidhar was working at the AAII.

Mr Lloyd says that while BattleModel was originally created to evaluate tenders for the Airborne Early Warning and Control system in 1999, it quickly became apparent that the framework – which these days allows the integration of models of both physical systems and human operators – could be adjusted to be used elsewhere.

'The concept of flexibility and the ability to plug and play new and legacy models in a sense lends itself to a variety of other areas,' says Dr Tidhar.

'Which is exactly what happened. DSTO started using it in other areas and ... instead of starting afresh, they started integrating more and more legacy models.'

The framework has since been used in the introduction to service of the Air Reconnaissance 'Tiger' Helicopter in 2002 as well as to develop and evaluate tactical procedures for the Boeing 737 Wedgetail Airborne Early Warning and Control aircraft and other 'armchair warrior' exercises aimed at supporting the development of tactics for the employment of new radar on the AP-3C maritime patrol aircraft.

'The employment of new equipment is as important if not more important than deciding what's best to buy,' comments Mr Lloyd.

Early last year DSTO signed a licence agreement with KESEM International under which KESEM will develop, market and sell the BattleModel technology to both government and commercial clients in Australia and overseas.

In return, DSTO will have access to any improvements developed by KESEM – which will provide ongoing upgrades and system support – as well as be paid royalties on sales.

Dr Tidhar says the agreement means DSTO analysts are free to concentrate on their 'core business': using BattleModel as a tool for analysis rather than developing the technology itself.

He says that one of the key benefits in commercialising the technology is that it increases the numbers of those interacting with the technology from a user point of view and thus should add to the product's development.

'By increasing the user base, what you get is an increase in the distribution of the development and the support cost.'

Since receiving the technology in March last year, KESEM has been developing and preparing the product for marketing and external use.

As well as interest from within other sectors of Australia's own defence forces, Dr Tidhar, whose team works out of KESEM's headquarters in Richmond, Melbourne, says there has already been significant external interest in BattleModel. It is now recognised not only as one of the best technologies of its kind now available, he says, but also as a mature product, having already gone through many stages of development at DSTO.

The system was demonstrated at last year's Australian International Air Show in Avalon near Melbourne, and since then there have been discussions with Boeing and leading defence organisations in the United States along with a range of other organisations based in Asia and Europe.

Dr Tidhar says there is also a potential market for the technology in the corporate environment.

'One of the issues is to do with the process of due diligence and support for decision making at senior corporate management,' he says.

'This would involve using this technology to evaluate options for operational situations and acquisitions.'

Cancer Vac

Melbourne-based Cancer Vac Ltd is developing and commercialising a breakthrough immuno-therapy technology which, in a clinical trial, stabilised disease and showed no toxicity in patients with advanced cancer.

The immunotherapy also has the potential to reduce the need for invasive procedures, because key elements of the treatment process occur outside the patient's body.

The Austin Research Institute (ARI) scientist in charge of the project, Associate Professor Bruce Loveland, says the cancer vaccine has the potential for a hugely beneficial impact on public health. He says: 'Apart from its apparent effectiveness, after scale-up we expect it would be competitively priced and largely free of other treatments' often severe and long-lasting side-effects, improving quality of life for both patients and their families. For instance, patients who wished to could work while receiving this treatment.'

Cancer Vac Ltd was established in 2001 by the listed company, Prima BioMed Ltd, after the breakthrough immunotherapy was invented by Melbourne's ARI. Prima BioMed has exclusive rights to commercialise many new technologies developed at the ARI.

In 2002, Cancer Vac Ltd began negotiating its present contract with another company, Progen Industries Ltd, to produce a cancer vaccine that meets the requirements of both Australia's Therapeutic Goods Administration and the United States' Food and Drug Administration. A 2001–02 Start Grant, worth A$465,000, was crucial to both the development and commercialisation of the new cancer treatment.

The ARI's Director, Professor Mark Hogarth, says: 'We could not have done the critical and successful Phase I trial of the vaccine, which commenced in 2001, without government funding. On top of this, we've been able to start our larger Phase II trial comparatively quickly because adequate R&D funding enabled us to conduct Phase I to very rigorous standards.'

A further benefit of the success of the Phase I trial in 10 humans was that it put elements of Cancer Vac's product on the 'fast track' to being patented in Australia and the United States, further strengthening the company's commercial prospects. Other major countries, including Japan, Canada and members of the European Union, are also expected to grant patents shortly.

An optimistic outlook for Cancer Vac's technology is supported by three vitally important findings of the Phase I trial: that the immunotherapy method was safe; that the materials used were safe; and that all the patients had the right immune response.

'The patients reacted exactly as we hoped they would,' says Professor Hogarth. 'To my knowledge, our immunotherapy trial is the only one in the world to obtain such promising results at the Phase I stage.'

The vaccine is intended for use in combination with selectively managed, standard cancer treatments – not as an alternative to them – because diagnosis usually occurs when a tumour is already quite advanced.

If all does go to plan, it would generate commercial as well as therapeutic benefits, most likely first through trade income, then a consequent boost to Prima BioMed's share value and the value of Cancer Vac, in which it and the ARI have equity. Ultimately, the ARI could also benefit financially from royalties.

The improved quality of life the vaccine promises was summed up by one patient in the Phase I trial: 'Two and a half years ago, I was given six months to live. I feel the trial treatment was essential to me still being alive now. After the radiotherapy I originally had for my cancer I felt unwell, lost a lot of weight and couldn't be as physically active as I used to be. Cancer Vac's immunotherapy had none of these effects, was non-invasive and very easy to receive.'

The Phase II trial will focus on patients with advanced ovarian cancer because the steady progress of this form of the disease is readily measurable and, when advanced, other treatments become ineffective. However, the immunotherapy can also be applied to breast, lung, bowel, prostate and other cancers, as it was in the Phase I trial. In addition, the basis to this technology could serve to combat a variety of other infectious diseases.

Historically, attempts to create a cancer vaccine have been relatively ineffective. Cancer Vac's success lies in its unique approach to overcoming cancer's formidable defence mechanisms, principally through its proprietary immune stimulant and cancer antigens. Basically, the immunotherapy involves taking blood from a cancer patient and extracting a special type of white cell from it. These isolated 'dendritic' cells' are then loaded with a vaccine that comprises a mixture of a cancer antigen, 'MUC 1', and a sugar to help the cells' uptake of the antigen. These primed cells are injected back into the patient, where they trigger a specific immune response in which the patient's own body produces 'killer' and other T cells that will attack only cancerous, tumour-forming cells, leaving healthy cells unaffected.

Elast-Eon

Elast-Eon, invented by the CSIRO, is a unique polymer that will enable the production of a new generation of medical devices that will save, sustain or improve the lives of people suffering from diverse and debilitating ailments – from blocked arteries to spinal disc damage.

In commercial terms, it looks well placed to earn the Melbourne-based company, AorTech Biomaterials, a significant slice of the multi-billion dollar, world-wide therapeutic device market. Yet Elast-Eon might never have been developed for commercialisation without the assistance of START and Biotechnology Innovation Fund grants.

Elast-Eon, which is known as a 'co-polymer', combines the outstanding mechanical performance of flexible polyurethanes with the biological inertness of silicone rubbers.

It is expected that the first devices made with the co-polymer will be in the field of cardiovascular, interventional cardiology and cardiac rhythm management. Elast-Eon is already under licence for use in these devices, which include coronary stents, the small expandable structures that are used to re-open blocked arteries. The insertion of stents is far less invasive and traumatic than traditional coronary surgery, but current devices have an incidence of re-blockage with time.

In 2002, AorTech applied successfully for a Federal Government Biotechnology Innovation Fund grant of A$250,000 that enabled it to evaluate Elast-Eon stents' ability to carry a number of therapeutic agents to reduce recurring arterial blockage.

It was found that loading Elast-Eon stents with drugs resulted in very little loss of mechanical performance, while elution of candidate drugs could be controlled to clinically relevant times, making Elast-Eon an ideal choice for stent coatings. This was instrumental in AorTech being able to sign a licence with Abbott Laboratories, one of the biggest stent manufacturers in the world.

AorTech manufactures the polymer in Melbourne in a number of grades, ranging from very flexible to rigid as the application demands. All grades of Elast-Eon are biologically inert, so they will not trigger a patient's biological rejection mechanisms. And it has a remarkable range of other beneficial properties, such as being durable, tear-resistant, and blood-compatible.

The CSIRO and AorTech Biomaterials are now expanding Elast-Eon's range of applications by modifying it for orthopaedic use, initially as spinal disc implants or replacements. These require a higher degree of compressive performance than other devices developed to date. CSIRO and AorTech have developed this new form of Elast-Eon to the point where implants made from it mimic the performance of spinal discs when subjected to the stresses that human spines must cope with.

AorTech expects that, when all the regulatory standards are met and the full range of Elast-Eon cardiac and coronary products become commercially available, they will earn the company some A$30 million per annum in sales and royalties. This revenue, however, could grow significantly over time, especially once Elast-Eon spinal implants are released: the overall spinal disc replacement and fusion market is worth some A$2 billion a year.

Elast-Eon also promises substantial medical and economic benefits from a multitude of other applications, as it fills a gap in the market for a biologically stable and pliable, yet strong material. AorTech, which employs 19 people, is in the process of lodging a safety file with the United States Food and Drug Administration. This will allow its customers, who manufacture medical devices, to gain approval for novel devices made with Elast-Eon.

In creating this exciting new co-polymer, the CSIRO triumphed where many other research efforts around the world had failed.

The Business Unit Director for AorTech Biomaterials, Dr Ian Griffiths, describes Elast-Eon as the product of a successful marriage between silicone and polyurethane. He explains that the CSIRO's approach to overcoming the lack of compatibility of the components was distinctly different from that of other researchers, some of whom tried to blend the two materials or attach silicone to the end of a chain of polyurethane. The CSIRO's polymer chains comprise a block of silicone, then polyurethane 'hard blocks', then another block of silicone and so on, which accounts for Elast-Eon's overall superior performance.

The strategic alliance between the CSIRO and AorTech is another successful marriage. As Dr Griffiths says: 'CSIRO have world-class biomaterials research capability and AorTech have the complementary skills of process development, quality systems deployment, manufacturing and market development.'

The commercialisation of Elast-Eon was kicked off by a three-year, Federal Government R&D Start Grant worth A$2.7 million to the CSIRO's then strategic partner, the Australian high-tech company, Elastomedic. Elastomedic was subsequently acquired by United Kingdom-based AorTech International, which has invested a further A$10 million in developing Elast-Eon. AorTech International would not have been interested in Elast-Eon had it not reached a stage of development where they could be reasonably confident of its therapeutic and commercial potential. According to Dr Griffiths, Elast-Eon could not have reached this stage without the biomaterials expertise of the government-funded CSIRO and the Start and BIF grants.

Fishoil

From bread to baby formula, consumers can now reap the health benefits of nutritious tuna fish oil after researchers at Food Science Australia rose to the challenge of introducing its omega-3 advantages to a range of foods.

The challenge was issued by food and biotechnology company Clover Corporation Limited, following studies which showed that the omega-3 polyunsaturated fatty acids present in fish oils were important for brain development, eyesight, learning and memory, as well as being linked to the control of diseases such as diabetes and arthritis, and the prevention of heart disease and cancer. The findings pointed in particular to the benefits of DHA (docosahexaenoic acid), the most complex form of omega-3.

Clover saw an opportunity for incorporating these beneficial fatty acids into other food products, such as bread, but there was a major problem to overcome. The omega-3 fats were highly susceptible to oxidation, which meant they imparted a 'fishy' flavour and odour to other foods, and limited the shelf life of those products.

So the founder of Clover Corporation, Hamish Drummond, asked Food Science Australia, a joint venture of CSIRO and the Australian Food Industry Science Centre, to find a way of encapsulating the tuna fish oil, a naturally rich source of omega-3 DHA, in a powder form that would mask the fishy smell and flavour, protect it from oxidation during processing and storage, yet still deliver the nutritional benefits to an increasingly health-conscious consumer market.

A 'microencapsulation team' was established in the late '90s, comprising researchers from Food Science Australia, based at Werribee in Melbourne's west, and Clover Corporation.

In 2001, after exhaustive research and trials, the team announced an innovative process in which microscopic droplets of fish oil are enclosed in robust powder films that protect the oil from the environment and other food ingredients, thus overcoming the problems of oxidation, unacceptable taste and odour and shortened shelf life.

In their research, scientists had evaluated and trialed a wide range of encapsulation materials for both infant formula preparations and general food products, such as bread.

Both groups required shelf stability, but each had its own specific challenges. Regulations controlling the encapsulant for the infant formula were strict, and it could only be made from ingredients already present in the formula. The encapsulant developed for bread had to be capable of protecting the oil during bread making and delaying the release of the oil until baking or even later. Early trials had resulted in distinctly 'fishy' breads and there were initial problems in preventing the fish oils from oxidising during storage.

But, after overcoming these hurdles, the resulting omega-3 fish oils encapsulated in a dry, free-flowing powder form were successfully incorporated into Karicare's infant formula and Weston's Tip Top UP bread.

Chief executive of Weston Technologies, Peter Schutz, described the application of the technology to his parent company's Tip Top bread product as 'a particularly challenging project'.

'Technical experts [from Food Science Australia, Clover and Westons] dedicated over two years to develop the optimum loaf of bread,' he said. 'Problems experienced during this development period severely tested our technical skills, our patience and, at times, our belief that we would ever launch a product.'

But, he said, the end result was a great-tasting bread that was stable through baking, toasting and freezing, a fact confirmed by sensory research and a large-scale test market of six months in South Australia in early 2002.

'Tip Top UP was released nationally on the Australian market in July 2002 as a large slice, soft, white bread in sandwich and toast slices, enriched with omega-3 fats,' said Mr Schutz. 'This bread has been a huge success for Westons and sales continue to grow at a pleasing rate.'

Not only has the new technology proved a winner with consumers in Australia and overseas, especially in Japan, but it has also earned the accolades of the food industry worldwide. The American Oil Chemists Society has awarded the microencapsulation team from Food Science Australia and Clover Corporation its International Corporate Achievement Award 2003. The team's victory is 'in recognition of the technological, commercial and public health impact of their joint research in oil microencapsulation technology'.

Former manager of the Ingredient Innovation group at Food Science Australia, Dr Martin Palmer, said the team was thrilled with the award. 'It's great to see an Australian research partnership receive international recognition,' he said. 'This award is particularly pleasing as it recognises successful innovation – the commercial outcomes that have resulted from the research – as well as the excellence of the science itself.'

The microencapsulation technology has been patented by Food Science Australia (patent pending).

As far as commercial outcomes are concerned, Clover, together with joint venture partner, Food Spectrum, says the omega-3 technology can be used in a range of products, including dairy foods, cereals, dietary supplements, beverages and juices, animal feeds and fruit preparations.

The joint venture company, Nu-Mega Ingredients, is working on new product developments in the United States, Asia and Europe, as well as Australasia. Already in Australia, processed meats, crumbed fish fillets, orange juice, plus a range of baked foods contain the microencapsulated tuna oils, helping Australians to more easily consume omega-3 DHA.

Clover founder Hamish Drummond has said research suggested that Australians were eating well below the recommended amount of omega-3 DHA. 'The products that we are developing are especially appealing to the growing market of health-conscious consumers,' he said.

'We have worked with Food Science Australia's scientists on many projects over the past few years, and we look forward to further collaboration and developing more innovative and healthy products.'

Geneguard

The object of Leigh Burgoyne's scientific passion – the nucleus of cells and the genetic material they contain – may be tiny but he has found a whole new world of possibilities for prying out its secrets.

While working in the late 1980s on ways to preserve the genetic material in human blood for forensic study – but not in liquid form – Associate Professor Burgoyne had a flash of inspiration.

The molecular biologist at Flinders University in South Australia reasoned that if he combined the various chemical reagents for genetic preservation with those used to eliminate viruses and bacteria and other parasites, he could safely store dry blood samples in a suitable matrix.

Using an extremely pure laboratory-grade paper as the matrix, his insight led to the invention of revolutionary new way to safely collect, store, transport, purify and analyse DNA in blood samples.

In doing so, he created an elegantly simple platform for genetic analysis that is now used worldwide by law enforcement and military agencies for forensic and identity testing.

'In effect, it's an instant mummification and preservation process,' Associate Professor Burgoyne says. 'It stores the DNA in the matrix and kills off the parasites in blood.'

At the time of his invention, the potential of the powerful new polymerase chain reaction (PCR) technology was just being realised. PCR allows tiny samples of the nucleic acids that make up DNA and RNA to be amplified many times over, to help identify and analyse genetic material.

When Associate Professor Burgoyne took his invention to the university's technology investment and commercial arm, Flinders Technologies Pty Ltd, it was immediately apparent that it was an idea whose time was about to come – laboratories everywhere would be using PCR and they would need a method like this to safely and securely store their sample materials, whether they came from humans, other animals or plants.

'We could see from the outset that there would be broad applications for Leigh's technology,' says Dr John Turner, managing director of Flinders Technologies. 'If PCR took off, as seemed likely, then this would take off as well. It is far more efficient than the standard methods that have been available for years.'

It not only replaced the need for liquid samples – with all their potential infection risks to handlers – but the paper could be stored at room temperature for years, obviating the need for costly refrigerated storage.

When a PCR analysis was required, the operator could simply punch out a piece of the paper – just two square millimetres in area – and drop it straight into the PCR amplification vessel, with no need for complex intervening steps of isolation and purification.

In short, it was fast, simple, reliable and cheap.

When he heard that the United States military intended to create a DNA database of all its serving personnel, using another technique that used a blotting paper-like material that needed to be deep frozen for storage, Dr Turner saw an opportunity.

United States military officials put him in touch with the United States-based Fitzco paper-making company and a commercial and technical development deal was struck.

Now well protected by a string of patents and sold under the commercial name FTA Gene Guard System (FTA stands for Fast Technology for Analysis of nucleic acids), the invention proved to be a hit in the latter part of the 1990s as PCR technology came into routine laboratory use.

So successful was it that the year 2000 dawned with Fitzco having just been taken over by a larger rival, Whatman PLC, which manufactures paper and chemical separation products.

That proved to be a major turning point, giving the FTA Gene Guard system a major kick along in technical and sales development throughout 2001 and 2002.

Several offshoot technologies have flowed from that takeover and the FTA system has been adopted worldwide, including by the Royal Canadian Mounted Police, the FBI and the United States military, as well as forensic agencies in Australia.

Today, Leigh Burgoyne's invention is in daily use for analysing a whole range of tissue samples, everything from blood, plasma, bone marrow, bacteria, viruses, protozoa, cultured cells and plant materials.

It has helped to solve crimes, free the innocent, identify diseases, is used for pure research and for the sad practicalities of identifying aircraft crash victims.

While exact details of the arrangements made with Fitzco and Whatman are commercially confidential, Dr Turner says that, all up, Flinders Technologies invested less than A$1 million in the project but it and the university have seen many millions returned from commercial deals and sales royalties.

'It's an excellent example of the forming of partnerships to enable commercialisation globally, which we would have had great difficulty doing – if we could have at all – from Australia alone,' he says.

'It's a tough commercial world out there and you need as much muscle as you can get. The deal with Whatman, for example, enabled us to deal better with infringers of our patents.

'Our experience with this invention has reinforced for us the need with novel technologies to have strong intellectual property protection and to get into the marketplace as soon as possible.'

GeneSTAR tenderness for beef

A genetic test for beef tenderness is giving Australian beef producers a crucial edge in international markets.

The GeneSTAR Tenderness test – a world-first technology created by Australian scientists in conjunction with genetic information company Genetic Solutions – identifies a tenderness gene in beef cattle, allowing breeders to selectively improve the quality of their herds.

The test uses laboratory analysis of an animal's DNA, which is extracted from tissues such as the roots of tail hairs or from blood samples of live cattle, collected at any age.

The test detects two different forms of the bovine calpastatin gene – one associated with increased tenderness and the other with increased toughness. Calpastatin is a naturally occurring enzyme that inhibits the normal tenderising of meat as it ages post mortem.

Breeders will favour those animals that carry two copies of the tender form of the gene over those that carry one copy of each form or no copies of the tender form.

In this way they can produce stock that will more consistently meet consumers' expectations of tender, quality beef.

The DNA marker test was the result of research undertaken by a team of five scientists led by Dr Bill Barendse, on behalf of a consortium comprising the Cattle and Beef Quality CRC, CSIRO Livestock Industries and Meat and Livestock Australia.

It was made possible by a broader investment of more than A$32 million of Commonwealth CRC funds, producer levies and CSIRO project funding to study genetic traits in animals.

In 2000, when Dr Barendse and his team set out to pinpoint the genes responsible for tenderness and create the test, he was going against accepted scientific wisdom – several previous studies had shown that the calpastatin gene had no link to tenderness.

But on examining the previous studies, Dr Barendse found that the authors had mistakenly assumed that the effect of the gene would be so great as to be detected in a small sample of 100 animals.

Dr Barendse and his team tested more than 5000 cattle DNA samples taken from seven different pure breeds and their cross-breeds as part of the study.

In 2000, they found suggestive evidence for a link to calpastatin, and by August 2002 they had what is known in the scientific world as overwhelming, or unambiguous, evidence of the link between variation in the calpastatin gene and tenderness, located on chromosome 7.

Although calpastatin is not the sole determinant of tenderness, which is also affected by factors such as the way breeders treat their stock, how the animals are slaughtered and how meat is cooked, the test 'plays a role in getting the food chain under control', Dr Barendse says.

The discovery of the link was immensely satisfying, he says. 'A lot of scientific work is hard, grinding work, but there is real satisfaction at the end, especially when your research is commercialised and makes a difference to farmers.'

After the University of New England provided an independent analysis of the results in late 2002, Australian private company Genetic Solutions, which had an established relationship with the consortium, licensed the patent.

After developing a version of the test for commercial use, Genetic Solutions launched GeneSTAR Tenderness in December 2002.

It has proved a huge success both in Australia and overseas and generated more than A$500,000 in the first 12 months after its launch, according to Genetic Solutions' scientific director Dr Jay Hetzel.

'Consumer surveys have consistently shown tenderness to be the single most important criteria of meat quality, and breeders have embraced this new technology that will allow them to meet consumer demand,' he says.

'In the first 12 months following the launch of GeneSTAR Tenderness we sold 10,000 tests in the United States, Australia, South Africa, Brazil, Argentina, Korea, Japan and Germany.

'Demand has been such that we now have an office in the United States, an agent in South Africa, and connections in South America. We have increased our staff by 25 per cent based on the success of this product alone.'

Over the next few years it will be marketed as part of a suite of meat-testing products, he says, and he believes GeneSTAR will be a multi-million dollar product.

Dr Hetzel says that apart from achieving great sales figures, one of the most exciting aspects of GeneSTAR's success has been an increase in awareness among cattle breeders of the use of DNA markers in producing top quality products.

He says the DNA marker technology could be used to identify many other traits as well, such as fat levels, disease resistance, feed efficiency and fertility, which would only serve to improve meat quality.

'We are improving the product all the time, and have already produced a new two-gene tenderness test that will halve the odds of consumers encountering a tough piece of beef.'

It's a real plus for Australia's beef industry that nets a massive A$9 billion annually from its exports to 110 countries.

Educating stud-breeding associations and societies about the technology, its value and strengths and weaknesses proved to be an important part of the marketing strategy for the product, Dr Hetzel says.

'We spent time doing face to face marketing with the more than 40 breeding associations in Australia, as well as those in the United States , explaining the significance of the product to them.

'And a lot of breeders heard about the product through the huge amount of publicity the media launch generated for us in 2002. I alone did more than 30 interviews with journalists from Australia and around the world.'

Dr Hetzel says GeneSTAR Tenderness is an Australian success story.

'It's a great example of how collaboration between the scientific and commercial world can make a difference and benefit everyone.'

Grain breeding

Australia's world-renowned grain breeding industry owes much of its success to the adage, 'something old, something new', as it meshes century-old achievements with cutting-edge technology.

Australia's pre-eminent position in grain production and quality centres on the University of Adelaide and the fledgling spin-off company, Australian Grain Technologies.

Wheat and barley research began more than 100 years ago at the university and, in fact, its Roseworthy campus developed the first known wheat breeding program in Australia. The university's other agricultural campus, Waite, is today recognised as a major research centre for plant molecular biology, plant breeding and pest management.

As well as being regarded as an international leader in research and development of plant varieties, the university's impact at national level has been immense. It is estimated that its breeding programs, undertaken with the South Australian Research and Development Institute (SARDI) and with the support of the Grains Research and Development Corporation (GRDC), underpin approximately 30 per cent of Australia's annual wheat production, which is worth about A$1.44 billion, and 50 per cent of annual barley production, worth A$576 million.

The university has also been instrumental in the growth of Australia's faba bean industry as well as the recently developed cereal crop, triticale, a cross between wheat and rye which is widely used as a high-quality stock feed and in some specialty food products.

Despite the enormous impact the university has had on this vital area of Australian agriculture, it wasn't until the Plant Breeders Rights (PBR) Act became legislation in the early 1990s that it could reap any commercial benefits. Prior to the PBR legislation, new varieties were publicly released with no financial return to the breeder. Now, new varieties – usually up to five each year across the University of Adelaide and SARDI programs – are released via commercial partners who collect royalties per tonne on the delivery of grain by the farmer to the silos (end point royalties). Currently more than 12 field crop varieties have been licensed to Australian companies for distribution throughout the world using this process.

For most of its long, grain-breeding history, the University of Adelaide has relied on research funds from a variety of sources – GRDC, the Australian Research Council (ARC) and private companies being the main contributors to not only 'mainstream' grain research, but also emerging technologies such as DNA molecular markers and genome mapping.

But, with public sector funding for plant breeding slowly declining over the past 10 years and an ever-increasing cost structure, it was decided a fresh approach was needed to ensure Australia remained a world leader in this field.

June 2002 heralded the formation of Australian Grain Technologies (AGT), an incorporated joint venture between the University of Adelaide, South Australian Government (through SARDI) and GRDC, with its major focus being the development of new wheat varieties for the Australian market.

Chief executive of AGT, Dr Stephen Jefferies, said the organisation was already playing an important role in delivering research outcomes to industry.

'AGT was brought about as a vehicle for the (Adelaide) university, SA Government and GRDC to remain active players in wheat breeding and provide productivity and quality improvements for the grains industry in a financially sustainable manner,' he said.

But while playing the role as a collaborator and supporting partner for leading edge groups such as the Molecular Plant Breeding Cooperative Research Centre, AGT has not forgotten its roots. It describes itself as 'an innovative grain breeding company building on the century-old traditions of the Waite and Roseworthy wheat breeding programs and Victoria's Horsham program'.

AGT has been restructured to react quickly to market trends as well as to consumer and grower demands for new products, while maintaining the traditional high standards demanded of Australian cereal breeding.

'The company has direct access to genetic material developed through the previous public wheat breeding programs in SA and Victoria. This ensures continuity of more than 100 years of selection and genetic improvement by Australia's dedicated plant breeding community,' AGT says.

Dr Jefferies said it was expected that AGT grain varieties would soon be grown throughout Australian cereal-growing areas. At present about 45,000 farms in Australia grow one or more types of grain and 25,000 farms include wheat as one of the main crops produced.

But AGT is looking beyond the narrow wheat belt in the temperate areas of Australia – its stated aim is to build a world-leading wheat breeding program, as well as develop new varieties with higher yields and quality characteristics that meet market requirements.

'Yields due to plant breeding have increased at almost two per cent per year over the past 50 years while resistance to disease and quality have also steadily improved,' said Dr Jefferies. 'AGT is committed to ensuring that ongoing quality improvements make Australian grain more competitive in international markets.'

HPV vaccine

A new vaccine created by University of Queensland researchers is a major breakthrough in the struggle against Human Papillomavirus-related cancer, including cervical cancer, which kills about 250,000 women each year

Most cervical cancer results from infection with the Human Papillomavirus (HPV) and is the second leading cause of cancer among women. The HPV vaccine, which promises to prevent the virus that causes genital warts and cervical cancer, was developed by immunologist Professor Ian Frazer, in conjunction with biotechnology company CSL Limited and pharmaceutical giant Merck.

The massive investment in its commercialisation is an indication of its market potential: industry experts estimate that, to date, Merck has spent in excess of US$200 million on the vaccine's commercialisation.

The technology that lies behind the vaccine – the ability to make a particular protein fold up naturally and produce the virus-like particles that form the basis of the vaccine – has been described by one Australian medical expert as 'potentially one of Australia's most important medical discoveries'.

A study published in 2002 found that the vaccine demonstrated 100 per cent protection against a type of HPV commonly associated with cervical cancer. Cervical cancer, a HPV-related cancer, kills about 125,000 women each year and is the second leading cause of cancer among women. Although cervical cancer is most common in socially and financially disadvantaged groups, and in countries with the least available health care resources, it also claims a significant number of Australian lives each year.

The high risk papillomaviruses type 16 and type 18 that cause 70 per cent of cervical cancer are sexually transmitted. The virus, which infects the neck of the womb, mostly clears after a year or two, but in some cases the infection remains. Persisting infection changes the cells of the neck of the womb to increase the risk that they will become cancerous, and about one in 100 infections will give rise to a cancer over 10 to 20 years.

The vaccine created by Professor Frazer is a conventional one, designed to prevent infection with high risk papillomavirus by inducing antibodies against the virus, which mediate its destruction. The vaccination is administered before the papillomavirus infection occurs, because once infection is established, it is unlikely to have any effect.

Professor Frazer said that eliminating infection with papillomavirus should wipe out the cervical cancer that these infections produce.

'In the future, I hope the vaccine can be used for routine immunisation of both women and men to prevent them from contracting HPV.'

The vaccine, which could be as close as two years away from commercial release, has already proven highly successful in clinical trials. A proof of principle study undertaken by Merck in 2002 found the vaccine demonstrated 100 per cent protection against HPV 16, the type of HPV commonly associated with cervical cancer. The results of the study were published in the prestigious New England Journal of Medicine in November 2002.

Phase three trials are currently underway in several countries. These are long term studies because it is necessary to show that the vaccines prevent not only the cancer but also the pre-cancer conditions, that, if found, are always treated, said Professor Frazer.

'If the trials run smoothly and give the expected outcomes, and if the regulatory authorities approve the vaccine, we could expect it to be released commercially in 2006.'

Professor Frazer and his team began work on the vaccine in 1986, with a National Health and Medical Research Council grant of A$200,000 over three years. For Professor Frazer, the research began with an interest in how the virus worked, and the vaccine to prevent HPV and cervical cancer 'was almost a chance observation along the way'.

'We thought that if we could just discover a trick to get the capsid protein to express itself in large enough quantities, we could get a vaccine. The day we saw the first pictures of virus-like particles (VLPs) purified from our experimental material was a 'red letter day'. We did the experiment expecting it to fail, and when it succeeded, we were surprised and realised that a vaccine would be possible.'

Biotechnology company CSL, which was seeking new human vaccine opportunities, entered into a research collaboration with Professor Frazer in 1991, providing funds to help advance his work on VLPs of human papillomavirus.

In 1995, CSL negotiated an exclusive worldwide licence from the University of Queensland's commercialisation company, UniQuest, which gave CSL the right to exploit and commercialise the intellectual property created by the research collaboration, including the work on virus-like particles and their application in an HPV prophylactic vaccine.

On publication of the key patent application, Merck approached CSL expressing an interest in working with them to further develop and commercialise the vaccine. Merck entered into an exclusive worldwide licence with CSL to develop a vaccine based on the VLP technology.

The future looks bright for the vaccine, for which CSL has recently been granted patents in both the United States and Europe.

Certainly the experts seem to agree. Harvard Medical School's Professor Christopher Crum wrote in the New England Journal of Medicine in 2002 that the study 'put to rest the recurring question posed by immunologists as to whether this type of vaccine can protect the highly vulnerable cervical epithelium (lining) from cancer-causing HPV'.

'The study demonstrates that the vaccine not only prevents the disease from developing but prevents the causative agent from residing in the genital tract.'

iLectures

A revolution in off-campus education has been pioneered by the University of Western Australia's virtual lecture technology, iLectures, which is dissolving barriers of distance, time and, for some, disability or language.

iLectures uses the Internet to deliver lectures in real time over a standard internet connection to students who may be living hundreds of kilometres from campus, or who cannot attend for other reasons.

In September 2001, when other universities were lining up to evaluate the technology, UWA's Michael Neville first realised the significance of the system they had developed.

'It was at that point that I realised that we had developed technology that could make such a fundamental difference to education globally and that we had to make it available to other university sites,' says Mr Neville, technical director at UWA's Arts Multimedia Centre.

Mike Fardon, the centre's academic director, says the positive feedback from users shows that iLectures provides a real solution to a real problem.

The fact that the iLectures system was developed by its users has been significant in its success. 'Every client that we've spoken to from other universities has commented on the fact that you can really see the system has been developed by people who are actually using it,' he says.

iLectures enables the automated capture, processing and delivery of presentations over the Internet. Users are given a password and can access archived audio and video files of lectures 24 hours a day using readily available software such as QuickTime or Real Player.

UWA initially designed iLectures to deliver programs to regional areas, in particular the south-east of Western Australia, Mr Fardon says.

As well as being used by students studying at locations hundreds of kilometres from UWA's main campus in Perth, iLectures is also employed by students who may have difficulties in attending lectures – including those with disabilities or part-time students who may have work commitments – as well as students who are revising prior to exams or who speak English as a second language and may require extra clarification of the material.

The system was initially conceived in 1997 and a prototype was developed in the second half of 1998. It went 'live' at UWA in the first semester of 1999.

Capturing an average of about 260 lectures a week at the university last year, iLectures was deliberately designed to require minimal ongoing technical support, and to minimise additional work for lecturers using the system.

'We started out from the view that we didn't want the process to be manual,' Mr Fardon says. 'We wanted it to be a very automated process because otherwise it could quickly become a drain on resources and money.'

iLectures was initially developed for the Arts faculty in which the multimedia centre is located and it presently delivers about 50 per cent of all the lectures within the faculty. Its usage has now expanded to all faculties and an estimated 60 per cent of the university's 14,000 undergraduates use the system at some point during the year.

University figures show that about 65 per cent of the hits are coming from off campus.

'It tends to be best suited to certain styles of lecturing and is better suited to the ones that are perhaps less interactive, such as in large class size lectures,' Mr Fardon says.

The system, which has evolved through a number of versions, was commercialised in late 2001 when it was licensed to the University of Melbourne.

Mr Neville says the technology was always developed with the idea that it would be made available to other universities.

'We got a lot of approaches from other universities in those initial stages to see what we'd done and with the idea of duplicating what we'd done,' he explains.

Once they had seen the system in action however, Mr Neville says the universities quickly realised it would take a significant investment in time and technical expertise to develop a similar system. Instead, UWA decided to license the iLectures system.

iLectures is now operating at three other sites: the University of Wollongong, Curtin University and Murdoch University.

To date, iLectures has returned about A$100,000 to the university and, with growing interest among both Australian and overseas institutions, that figure is expected to grow.

In April 2003, UWA also established a spin-off company called Media Farm Pty Ltd to market the technology to the TAFE sector. The company recently conducted a federally-funded trial of the system in conjunction with the WA State Government's Department of Training and was awaiting the results.

The system requires that hardware be installed at the client's site with training and some ongoing maintenance supplied by a UWA technical support team. It is usually licensed for a flat fee with additional costs per recording point and capacity as well as small fees for maintenance and upgrades.

Mr Fardon says that one of the major drivers in marketing the technology to other universities and organisations was to help provide ongoing funding for further research and development of the product.

Mr Neville, meanwhile, says that one of the important steps in marketing the product was the establishment of an Office of Industry and Innovation at the university during 2001. He says another was in 2001, when Apple Computers Australia became aware of what the university was doing and gave them a significant amount of hardware.

InQuirion

The vast torrent of data being carried by the Internet has created unprecedented demands on information management systems – and an Australian technology is meeting the challenge by processing up to two billion documents every four seconds.

Known as TeraText, the technology is a suite of data-mining software products capable of handling huge volumes of text and building text-intensive applications.

Already extensively employed within the defence intelligence sector in both Australia and the United States, TeraText has been specifically designed to fill the gap created when the growth of the Internet led to the advent of new database standards for text such as XML.

Unlike traditional database applications, TeraText has been designed to search, transform, deliver and store text using these new standards.

An alliance between RMIT spin-off company InQuirion Pty Ltd and United States-based IT giant Science Applications International Corporation (SAIC) is delivering these management solutions to the defence intelligence community on two continents.

'The application manages text and documents, finds words and phrases, searches at any point of time to find historical information, publishes documents over the web, makes sure people have access to only the information they are allowed to see and so forth ...' explains Professor Ron Sacks-Davis, who headed the research team which developed the products.

'There are complex issues relating to managing a text collection and TeraText is designed to do exactly that. There is a wide range of applications with which it can be used and our biggest vertical markets in Australia today are in intelligence, particularly defence intelligence, and legislation drafting and access'

TeraText today represents the culmination of more than 10 years of research and development, initially sparked in the late 80s when the Australian Research Council funded a Centre for Knowledge-Based Systems at RMIT and the University of Melbourne. The work on TeraText then continued within RMIT at the RMIT Multimedia Database Systems Research Centre.

Professor Sacks-Davis, who heads the Centre, says that commercialisation of TeraText began as far back as 1993, through the formation of a strategic alliance with the Melbourne-based system integration company, Ferntree Computer Corporation (which was later acquired by GE Capital IT).

Under the alliance, Ferntree was responsible for marketing the product in Australia while RMIT continued the R&D.

Initial customers included the CSIRO, the Australian Tax Office, the Tasmanian State Government and the Australian Research Council.

In 2001, InQuirion was formed to take the commercialisation to the next step. Half-owned by RMIT and half-owned by some of the 30 or so software developers who are employed at its Melbourne base, its client list has now expanded to include Standards Australia, the Department of Defence, Tenix Defence Systems, the National Library of Australia and State Governments in Victoria and New South Wales, among others.

TeraText's ability to support XML (and initially its predecessor SGML) along with the information retrieval standard for managing large volumes of information across distributed networks, also caught the attention of defence intelligence organisations in the United States and resulted in the United States Department of Defence becoming a client.

In late 2001, in a bid to further its exposure in the lucrative North American market, InQuirion signed an agreement with the Fortune 500 company SAIC in a deal expected to bring tens of millions of dollars to Australia.

Under the deal, Californian-based SAIC has the exclusive rights to distribute TeraText in North America through its division TeraText Solutions while InQuirion will retain the intellectual property in Australia and continue to develop and research the products.

Clients in North America now also include the Department of Justice in Canada as well as the governments of the Canadian provinces of British Columbia and Quebec.

'We feel SAIC are a very good company to work with because they're primarily a technology company and their customer base is right for our type of product,' Professor Sacks-Davis says.

He believes the deal is crucial to the commercialisation of the TeraText product, opening up new commercial opportunities through the resources of a US$6 billion company which is the second largest supplier of IT to the United States Government.

Clients in North America include numerous organisations with defence intelligence and millions of dollars have already been passed back to InQuirion as a result of the agreement with tens of millions more expected over the next few years.

Professor Sacks-Davis says that following the success of the strategic alliance with SAIC, InQuirion was now keen to form similar partnerships in Europe and Asia.

'Over the short to medium term, we'd certainly like to sell the products in other parts of the world.'

In Australia, meanwhile, R&D continues.

'It's very important we stay ahead of the field ... and we like to think that we can match it with any technology in the world,' Professor Sacks-Davis says.

'It's part of the culture. It wouldn't be InQuirion if we changed direction from that.'

The lightning trap

Invent a better mousetrap, and the world will thunder on your door. But as Brisbane company Fultec Pty Ltd has found, offer the world a radical new mousetrap, based on a supposedly forbidden principle, and nobody will call – at least, not at first.

The information and communication technology startup-up company is commercialising a device invented by electrical engineering student Richard Harris during PhD research at the University of Queensland in 1993. Dr Harris' invention does not restrain rodents, but something far more dangerous: lightning.

His Transient Blocking Unit (TBU) blocks powerful, lightning-induced currents – surges – that can vaporise copper and fry silicon chips.

The first commercial devices developed by Fultec have been installed to protect the electronic control systems for the Skyrail cable-car connecting Cairns and Kuranda in Queensland's wet tropics, where frequent tropical thunderstorms and lightning displays punctuate the Wet season.

Powerful transient currents, or 'surges', propagating through power or communication lines after lightning strikes can severely damage connected devices with delicate electronic components. The annual damage bill in the United States alone is US$26 billion.

The slew of surgebusters that protect valuable electronic equipment around the world – computers, electronic control systems for machinery, and telephones – all rely on a device called a parallel shunt.

A surge entering the circuit is shunted away and dissipated to earth before it can cause damage. But surgebusters sometimes need replacement after powerful surges – or they may fail in the line of duty.

Richard Harris brooked decades of conventional wisdom by designing a serial device – the TBU. It differs from conventional surgebusters in completely excluding the current and directing it harmlessly to earth through a heavy-duty shunt.

David Henderson, chairman of Fultec, says after successfully undergoing normal laboratory trials, a prototype unit was subjected to a transient 20,000-ampere current – it was unscathed, but nothing else on the circuit board survived.

'Nothing will survive a direct lightning strike,' Mr Henderson says. 'There's just too much power – many millions of volts.

'But when lightning strikes in one spot, there's a ripple effect that causes the voltage to drop as it moves away, down to manageable surge levels.

'The TBU can handle a thousand-volt surge, well above the failure level of average surge-protection devices, which is only a few hundred volts, so it provides greater protection in areas closer to the lightning strike.'

The major attraction of the TBU, Mr Henderson says, is that it can be downsized and incorporated on a microchip within the device it is designed to protect.

In the mid-1990s, the University of Queensland, which owns the intellectual property rights to Dr Harris' invention, approached some of the world's leading manufacturers of surge-protection devices to manufacture and market the TBU.

'Telstra and a big United States manufacturer showed some interest but they had a lot of trouble accepting that the new device would really work and was worth investing in,' Mr Henderson says.

'We couldn't get the money to build a prototype to show that it would work in practice.'

Venture-capital companies were similarly dubious – in the absence of a commercial prototype, they considered it too early in the development phase to justify investment.

Finally, in 2001, UniSeed Pty Ltd, a venture-capital company jointly established by the University of Queensland and the University of Melbourne to provide seed capital to new spinoffs, invested A$490,000 in a new company, Fultec Pty Ltd, to manufacture and commercialise the TBU – UQ, through its commercialisation arm, UniQuest Pty Ltd, remains Fultec's largest investor.

Fultec hired Dr Harris to build a working prototype, about a quarter of the size of a matchbox. The prototype is now undergoing further miniaturisation and a redesign to enhance its performance, while reducing costs.

Fultec's big break came when Skyrail in Cairns contacted a Tasmanian-based surge-protection equipment company, Novaris Ltd, in desperation, looking for a surgebuster capable of protecting Skyrail's computer-based control and communications systems against lightning.

Novaris wanted a system that would be sufficiently robust, reliable and durable to protect a communications system suspended high above the ground in one of Australia's most thunderstorm-prone areas. So it contacted Fultec.

A more rigorous field test of the technology could hardly be imagined, but Skyrail's world-first TBU protection system worked perfectly, and the company has ordered more TBU modules to add extra layers of protection closer to the ground.

The tour-de-force demonstration saw a surge of interest among formerly sceptical telecommunications companies around the world – Fultec is now talking to potential manufacturing partners in the United States , Britain and China.

'Around 1998–99, we reached a point where we thought it would never happen. We'd been pushing it for a number of years, and received numerous knockbacks, but we always believed in it,' Mr Henderson says.

'What helped us was the rapid growth of high-bandwidth telecommunications networks. This device will work on very high bandwidth circuits without causing undue signal loss – today's surge-protection devices can't do that.

'There'll always be a market – even all-optical fibre networks will still have copper connections between major components. One of the biggest markets will be in developing countries that are moving from copper to fibre optics, but can't afford the infrastructure costs associated with current surge protection systems – the TBU will be very cost-effective.'

'It's one of those elegantly simple, 'why didn't I think of that?' ideas,' Mr Henderson says. 'The initial response from knowledgeable people was that it couldn't work. Now they're converts – it's a major paradigm shift in surge protection.'

How big is the market for Australia's superior surgebuster? 'Its ultimate potential is that it could be used on every telecommunications line in the world – and not just one per line – as well as in every exchange,' Mr Henderson says.

'The numbers are mind-boggling, but it will take time to establish the technology in the market-place. That should happen once we get the cost down by putting it on a chip.

'In the early days, it's going to go into applications where there are problems that people just can't solve. There are mining sites in Australia and other tropical nations that have lost their entire communications system through lightning strikes.

'They could install TBUs throughout their sites, layering them so they would have heavy-duty protection at the external entry points, and use lesser protection within the system.

'This technology will also greatly reduce the maintenance costs associated with repairing systems damaged by lightning strikes. And sometimes, a surge may not be strong enough to burn out equipment, but will shorten its working life – the TBU will prolong the working life of such equipment.'

Pyrolex® Ceramifiable™

The Department of Education, Science and Training funded Cooperative Research Centre for Polymers and an industrial manufacturing company, Olex Australia, have developed a unique power cable that enables essential services to be maintained during a fire, helping to save both lives and property.

As a 'world breakthrough', the new fire-performance cable, Pyrolex® Ceramifiable™, also has great commercial prospects. Olex, which has total ownership of the product, estimates it will generate sales worth A$75 million and create 20 new jobs over five years.

But Olex will not be its only beneficiary. The General Manager Engineering and International Sales for Olex, Mr Ken Barber, says Pyrolex Ceramifiable's technological edge is good for both the company and the nation. It will again put Olex in a position to supply Australia's fire-performance cable needs after losing the local market to cheaper overseas products; it will create an Australian export product with great potential; and it will help sustain Australia's manufacturing industry.

The project has also added to the store of the nation's polymer and fire-fighting expertise. Mr Barber says all this illustrates the substantial rewards that can flow from collaboration between the public and private sectors on scientific and commercial research and development.

The Olex and CRC for Polymers project began in 1997. One of the most significant milestones in its commercialisation occurred during 2001 and 2002, when Pyrolex Ceramifiable cable increased its competitive edge in overseas markets by demonstrating through rigorous independent testing that it could meet the circuit integrity tests of British Standard BS6387.

Another milestone was the launch, in July last year, of the first Pyrolex Ceramifiable products. Others are set to follow in the near future.

What makes Pyrolex Ceramifiable so special is that, unlike conventional polymers, or plastics, it does not catch alight or melt when exposed to heat or flames. Fire transforms the polymer into a ceramic – a hard and protective barrier that shields electrical supplies.

As well, another major benefit of the cable is that it will not contribute to that other great fire hazard, smoke.

The Deputy Chief Executive Officer of the CRC for Polymers, Mr Warwick Freeland, predicts the product will have a significant, beneficial impact on many people's lives, from those threatened by fire to those fighting it.

Pyrolex Ceramifiable cable has the potential to be of great assistance in combating urban and bush fires, as well as fires in installations such as airports. It has a wide range of potential applications in securing power supplies for the military, as well as the computer, automotive and health industries. Mr Freeland says Pyrolex Ceramifiable cables are already in use in Melbourne's Austin Hospital.

The polymer is also being developed for products other than cabling. These include 'passive fire protection', where it would be incorporated into panels and used to enhance fire, heat and smoke resistance in a variety of settings such as buildings, for example, or aircraft. Ceramifying panels would literally form an unpassable firewall.

Another prospective spin-off could see the polymer replacing the rubber seals currently employed to connect oil pipes. These seals break down in the presence of intense heat and cannot prevent fires in oil pipes from getting out. But seals made from ceramifying polymer would harden into a ceramic and stop fire escaping and spreading, for example, through an oil refinery, with catastrophic results.

Mr Barber says collaboration between CRCs and industry is the only way for large local companies to obtain government financial assistance, because those with an annual turnover of more than A$50 million are ineligible for grants. Yet, without government assistance, Olex and similar companies would in many cases be unable to afford the R&D outlay necessary to come up with valuable products like Pyrolex Ceramifiable.

Since Olex decided it needed a technologically superior cable product to compete in domestic and international markets, the Pyrolex Ceramifiable project has required an investment of A$6 million. This has taken the form of cash and know-how from Olex – whose cable-manufacturing experience dates back to 1940 – and 'in kind' resources from the CRC. These included a large team of leading Australian scientists and R&D facilities at the CSIRO, RMIT and Monash Universities, the University of New South Wales and the Defence Science and Technology Organisation, plus assistance with administration and coordination.

The importance of the latter should not be underestimated. While companies like Olex come up with the idea for a product and guide its development, Mr Freeland says that left to their own devices, it would be very difficult for them to harness the resources of a large number of often widespread research institutions.

QEMSCAN

To generate more value from lower grade ores, the global mining industry is investing in knowledge – a powerful driver of efficient minerals extraction.

This conviction united five mining companies in 2001 in supporting QEMSCAN, the CSIRO mineralogical technology which they knew could radically change mining and minerals exploration and analysis.

Since then, the close links between the mining industry and CSIRO has resulted in the rapid adoption of QEMSCAN, representing multi million-dollar investments by companies such as Anglo Platinum, Phelps Dodge and Rio Tinto.

It is rapidly producing multi-million dollar benefits – one company alone improved its cash flow by US$5 million per year after employing QEMSCAN at one site.

QEMSCAN provides mineralogical information with a speed and accuracy never seen before. By using a combination of X-ray detection equipment, SEM functionality and software, QEMSCAN gives companies the flexibility to analyse ore bodies in mines, and process flows in mill operations.

For the past 20 years physicist Paul Gottlieb has worked on developing QEMSCAN and is now the manager of Systems at Intellection, CSIRO's spin-off company dedicated to maintaining, marketing and developing the technology.

'When we first developed the technology it was used on lead and zinc ores. We soon realised that if it could analyse them in detail then it could easily be used on beach sand, or zinc, copper and nickel ores. It is basically adaptable to any commodity area,' he said.

'When mining company representatives see QEMSCAN in action, a light globe goes on in their heads when they realise for themselves what it can do to improve their business,' he says.

Since the launch of Intellection in late 2003, the take-up of QEMSCAN is set to accelerate. One of Intellection's greatest strengths is its ability to fuse 20 years of research knowledge with an in-depth understanding of industry needs. 'We own the thought leadership in this area,' says Calvin Treacy, CEO of Intellection.

The company capitalised at A$4.5 million and had a turnover of about A$1 million in its first quarter of operations. Intellection has 11 staff, five of whom have come from CSIRO.

Intellection was launched at the same time as a more powerful version of the QEMSCAN data analysis software, iExplorer, came on stream. This software provides a simpler, rapid, integrated and efficient means of looking at mineralogy of ore bodies and mineral processing circuits. 'Users don't have to work with several different software applications, they can look at one report which integrates information from many sources,' says Mr Treacy.

iExplorer was developed in conjunction with the QEMSCAN user group, who also contributed financially to the software upgrade and worked closely with CSIRO through the whole process.

The mining companies who have invested in QEMSCAN have reaped enormous financial and other benefits from a deeper understanding of their ore bodies, improved recoveries, reduced loses, or improved concentrate grades – adding up to savings of millions of dollars. For example, at Candelaria, Phelps Dodge's Chile mining operation, cash flow was boosted by US$5 million per year after changes were made based on a concentrator audit utilising QEMSCAN data.

The presence of the technology often gives companies the confidence to make other efficiency changes. Intellection can help drive this change because it provides integrated systems support, consulting and testing services. In short, collaboration continues long after systems are installed.

As Mr Gottlieb explains, those companies using QEMSCAN will be saving energy too. 'If you are more efficient with grinding, you can recover more of the valuable minerals, rather than over-grinding valuable and gangue minerals with no recovery benefit. This saves huge amounts of energy,' he says.

There are other applications for QEMSCAN apart from minerals processing and analysis, including gas, oil and even forensics. In a recent United Kingdom murder case, QEMSCAN was used to link soil found on the accused with soil on the victim. This was vital evidence in the prosecution case.

Although Intellection is keen to explore these other applications, its short-term focus is marketing to mining companies, according to Mr Treacy.

'It is not so much a question of how big the market is, but how we access it. The mining industry is a fairly tight knit community and word gets around. There are over 500 companies in the world that could justify buying this technology,' he says.

Relaxin

Forging a basic scientific discovery into a marketable product is never easy, but Professor Geoffrey Tregear's efforts to realise his dream of finding medical applications for the hormone relaxin has taken him on a path that has been longer, tougher and more complex than most.

Along the way, relaxin's potential in diverse applications has been explored: from easing childbirth, to treating a potentially fatal disease, to straightening teeth. With the orthodontic research now rejuvenating relaxin's drive towards to commercialisation, the journey serves as a testimony to the persistence and vision shown by the scientists involved.

Professor Tregear, of the Howard Florey Institute of Medical Research in Melbourne, first started researching relaxin in 1975. He had just returned from the United States and was seeking a suitable research project when a chance remark by a colleague – that relaxin remained largely unknown, despite being discovered decades earlier – piqued his interest.

As its name suggests the hormone, which women produce in the final days of pregnancy, relaxes the pelvic ligaments and prepares the uterus for labour.

Such a fundamental and important compound was clearly a worthwhile target for much closer scrutiny.

With a total of almost A$2 million in backing from the National Health and Medical Research Council over the many ensuing years, Professor Tregear's research team made a series of landmark discoveries.

It was the first to isolate the hormone, the first to identify and characterise a gene that codes for it and the first to chemically synthesise relaxin.

Professor Tregear and his colleagues gradually came to understand that relaxin works by stimulating the production of enzymes that break down collagen, the tissue that connects or supports skin, tendon, bone, cartilage and other body parts.

So it seemed highly likely that it would lend itself to many clinical applications for treating connective tissue disorders and Professor Tregear's team was very active in putting in place intellectual property rights for their discoveries.

Early trials to see if it could be used to assist women undergoing difficult labour were inconclusive and that research trail was abandoned.

The team lodged international patents on the relaxin gene it had identified and immediately ran into controversy in Europe, where the Greens political party decided in 1992 to use the application to mount a test case against the patenting of human genes on the legal ground – peculiar to European patent law – that it was 'contrary to the dignity of man'.

After protracted wrangling and two appeals, it took until 2003 before the patent was finally upheld. Meanwhile, the patent's 20-year life – dated to the original filing of the application – had been ticking away with the team unable to exercise its rights.

Likewise, many of the original patents filed in the early 1980s are approaching their expiry date, underlining the need for speed in commercialisation of discoveries.

But a United States biotechnology start-up company, Connectics, had great faith in relaxin's potential and generously backed the Melbourne team to the value of almost A$100 million to develop its discoveries during the 1990s.

By 2000, synthetic relaxin was in Phase III clinical trials as a treatment for scleroderma, a serious disease of connective tissue. In its severest form, the disease results in skin and internal organs being literally encased in collagen, with fatal consequences for most sufferers.

Phase I and II trials had established that relaxin's ability to degrade collagen held much promise in treating the disease – in short, it worked – but the final trials failed to show a statistically significant benefit.

In retrospect, Professor Tregear believes a problem with the design of the trials was largely responsible for that result, but the outcome of it in 2001 was that Connetics decided not to continue with its investment in the drug's development.

Professor Tregear's disappointment over that decision was countered, however, in 2002 when another United States biotechnology start-up company – BAS Medical – took up the rights and promised significant research support for the next nine years.

Its entry onto the scene took the research project in a whole new direction, this time for relaxin's potential in orthodontics.

The team is currently working towards a completely new way of straightening teeth: the idea is to replace awkward and unsightly metal braces with a transparent plastic brace on the teeth themselves, coupled with a relaxin-impregnated chip implanted into the gum above. The relaxin would slowly seep out, degrading the collagen in the gum until the required orthodontic correction was achieved, then the chip would be removed.

'If you'd said to me two or three years ago that we'd be using relaxin in this way I don't think I would have believed you,' Professor Tregear says.

The publication of the full draft of the Human Genome Project has since also opened up fresh possibilities: Professor Tregear's team used it to find a second relaxin gene, for which it has also filed patent applications.

'In a sense we're back at square one, with new patents, a new research direction and tremendously enthusiastic partners,' he says.

'The lesson for us is that it not only takes an extraordinarily long time but a lot of money to do this kind of work: you need great patience and deep pockets.

'That's one of the reasons we chose to go offshore – Australia is a relatively small market and it's been much easier for us in California to raise the kind of money we needed.

'We're still not in the marketplace yet, but the process of developing a new product takes much longer than most people appreciate. There are no quick returns in medical biotechnology in my view.'

Starlight – keeping information secure

It's a problem faced by organisations handling sensitive information the world over: how to allow varying levels of access to data systems without compromising security.

Australia's DSTO pioneered a technology which does just that.

Known as the Starlight suite of products, the technology allows users of secure computers to access insecure networks while keeping their own sensitive data safely locked away.

Maurice Hermann, Assistant Secretary for Science, Industry and External Relations at the DSTO, says: 'It was developed for a defence and military type of environment where we wanted to hook up an unclassified system and, in our case, a secret system, to the same screen and keyboard and mouse and not have multiple boxes all over the table.

'It allows you to work safely between the two systems without any data being able to be mixed between the two.'

The technology was initially developed by scientists working at DSTO's offices in Edinburgh, near Adelaide, specifically for use within the Department of Defence – with the first prototype developed in 1994.

Mr Hermann says it was quickly recognised within DSTO that the organisation would require a partnership with an external agency to manufacture the product.

'As early as 1995, we started working on how we could engage industry,' he explains. 'We needed industry to manufacture it and sell it back to Defence and other areas of Government which needed this capability. But we also realised that there were lots of parts of industry that needed exactly the same capability – banks, building societies, insurance companies and a whole lot of others as well – where they wanted to hook up to maybe the Internet and also their own internal accounts which had sensitive or confidential information without any cross-fertilisation of data. So we recognised the commercial market straight away.'

In 1996, DSTO held an open tender process for an industry partner to evaluate and supply the Starlight technology to the Australian Government. The company Vision Able Pty Ltd won the contract.

In 2000, defence industry giant Tenix Pty Ltd acquired Vision Able, and, according to Ken Sheridan, chief financial officer at Tenix, immediately saw the potential to 'take the technology to the world'.

In 2002, the company signed a 10-year agreement with DSTO under which Tenix – via it's wholly owned subsidiary Tenix Datagate Pty Ltd – was granted the rights to sell and market the technology to industry in both Australia and overseas while DSTO continued its development.

To date, DSTO has invested more than A$10 million in researching the Starlight products (another $14 million has been invested by the Defence Material Organisation) with the hundreds of thousands in royalties gained largely reinvested in its ongoing development.

Originally badged as Interactive Link, the Starlight suite of products is now being marketed under the Veto brand.

The technology, which has already brought in millions in revenues, is being used by Australia's Department of Defence and Department of Foreign Affairs and Trade with more than 5000 Starlight products in use. Tenix are also in discussions with Victoria Police.

'Our plan at the moment is to market it into the United States and United Kingdom government and defence area where it has the most appeal,' Mr Sheridan says.

As well as providing the technology to Australian organisations, Tenix is operating pilot systems in the United States where the technology is currently being put through a National Security Agency certification process, which is necessary before any sales are made.

'We are having the product certified to a standard called Common Criteria Evaluated Assurance Level 7. That's a scale of 1 to 7. Nothing's ever been issued past four so this is absolute state-of-the-art security technology. We hope to have our accreditation finalised in June this year,' Mr Sheridan says.

(The first of the Starlight-based devices – the Interactive Link Data Diode and Multiple Computer Switch – have already achieved the highest possible security certification of E6 under the globally recognised Information Technology Security Evaluation Criteria.)

Pilot systems are also in operation in Canada, the United Kingdom and New Zealand.

Mr Hermann believes DSTO's ongoing relationship with Tenix is crucial not only in providing funding for further developing the Starlight technology but also to the development of the technology itself.

'I suppose Tenix are, in some ways, our eyes and ears about how the product works and what is needed in the commercial world ... We're don't always have the full knowledge of how people are trying to crack into secure systems. Tenix are out there seeing it just as well as us so they can give us feedback and we have an alliance relationship with Tenix that allows us to talk about things like that,' he says. 'We do bounce ideas off each other and that works well.'

Tailored weather forecasts

Sophisticated weather modelling software developed by scientists at CSIRO Atmospheric Research is proving a boon to many people in specific commercial areas, from sailors to industrial engineers to environmental regulators.

One system, the 'Conformal-Cubic Atmospheric Model' (C-CAM), helped the Swiss team win the America's Cup in 2003 by accurately forecasting localised wind shifts. A related technology called The Air Pollution Model (TAPM) allows researchers to track pollution emissions and model their impacts, earning hundreds of thousands of dollars in revenue for CSIRO.

The C-CAM software is a commercial spin-off from Australia's climate research program over the last 20 years. With funding from CSIRO and the Australian Greenhouse Office, scientists have developed computer models capable of determining the impacts of global warming on regional climates across Australia, initially with a limited area model (DARLAM) and more recently with the conformal-cubic model (C-CAM).

In the mid-1990s, Dr Jack Katzfey, CSIRO's weather applications project leader, realised the software may have wider applications when colleagues from the CSIRO's Land and Water Division asked him if the software could produce small-scale weather forecasts to help them set up a field experiment near Wagga Wagga. DARLAM proved adaptable to the task, and Dr Katzfey's team began refining the software to predict short-term weather changes rather than long-term climate shifts.

The computer models use analyses of meteorological data (temperature , moisture, pressure and wind), then predict how the atmosphere will behave based on the physics and dynamics of all the interacting variables. The result is a fast, detailed and user-friendly display of weather, capable of being tailored to clients needs.

The big commercial breakthrough came in early 2001 when Dr Katzfey, Bob Cechet and Dr John McGregor were commissioned by Alinghi, the Swiss America's Cup syndicate, to predict how wind speed and direction would influence racing conditions in New Zealand's Hauraki Gulf. It was a dream come true for Dr Katzfey, an experienced yachtsman who found himself bobbing about on a boat with a ringside seat for the most elite sailing event in the world.

Drawing on three of his passions – sailing, weather and computers – Dr Katzfey provided detailed information to the Alinghi crew about conditions within the five-kilometre race area. Just before the third race in February 2003, C-CAM predicted a wind change. Dr Katzfey managed to send the update to the Alinghi crew just before communications were cut off in accordance with the rules. The message persuaded the crew to start on the right-hand side of the course rather than the left. The prediction proved accurate, and the change in tactics was regarded as giving Alinghi the critical competitive edge to help win the coveted sports trophy.

One example of a commercial application of this technology has been the supply of C-CAM forecasts since 2001 to the energy information firm EWN Publishing to help energy companies determine future demand. Other commercial opportunities being explored include wind predictions for wind farms, agriculture and sports.

The latest version of The Air Pollution Model (TAPM V2) from CSIRO Atmospheric Research is already well established in the market place. TAPM V2 was launched in March 2002, and the software is now being used by more than 46 groups in Australia and in 21 countries to predict air quality in cities and how pollution disperses from point sources such as factory chimneys.

TAPM V2 has outstripped the previous model, which was sold to 11 countries and earned Australia more than A$100,000. Clients in New Zealand, Europe, Asia and Africa as well as Australia have paid in total more than A$300,000 for the licence to use version two, while CSIRO has earned many hundreds of thousands of dollar more in consultancy fees for specific pollution modelling projects.

TAPM V2 is a user-friendly PC-based software that accommodates line sources of pollution, such as roads or flight paths, and area sources, such as factories or domestic emissions. The model draws on data from the Bureau of Meteorology to establish year-round weather conditions for the specific location. Engineers and planners can then model the effects of numerous pollutants and emissions in 3D and use the insight to minimise environmental impacts.

The new version was designed to help regulators like Environment Protection Agencies determine air quality and to assist in the preparation of environmental impact assessments. Principle research scientist Dr Peter Hurley says users also include universities as a teaching tool, engineers who want to ensure emission stacks are designed and located to meet air quality limits, and industrial operators who want to ensure their plants are up to standard. Other customers include chemical, mining, energy and environmental consultants.

Tuberculosis tests

Ground-breaking research by a group of Australian scientists into a more efficient way of testing humans and animals for tuberculosis has reinvigorated the global battle against this virulent disease, which kills about three million people each year.

But the success story – which culminated in the creation of a A$130 million company – was almost commercially stymied. It owes its survival to the scientists who collaborated on the research and had a passionate belief in the new technology.

Led by Dr Paul Wood, then at CSIRO and now with CSL, the Melbourne-based research team began exploring a new way of testing for TB in cattle in the mid 1980s. They were determined to find a faster and more accurate procedure to replace the 100-year-old tuberculin skin test which was a slow, often inaccurate process that could miss cases of TB or, conversely, give false positives.

Dr Wood's team had the support of Australia's Brucellosis and Tuberculosis Eradication Campaign (BTEC), and the financial backing of the cattle industry via the then Australian Meat and Livestock Corporation. With experiment costs reaching six figures, this support was vital to the project. 'It was a case of the cattle industry investing in its future,' says Dr Wood. 'They had the guts to commit that money (about A$4 million) which was a huge step to take.'

It proved to be money well spent, when five years later the research team announced the development of Bovigam, a new laboratory test for bovine TB. Not only was Bovigam a simpler and faster procedure, requiring only one blood sample, but it was more accurate, did not interfere with the immune system of the animal, could detect early signs of infection and cost much less overall.

Wordwide trials of more than 300,000 cattle since that time have confirmed the advantages and the Bovigam product is now sold in more than 25 countries by CSL, which signed a commercialisation deal with CSIRO in the late 1980s.

With countries such as the United States, England, Ireland, Italy, Spain and New Zealand all committed to Bovigam, sales of the product now run to millions of dollars per annum.

Because of the similarity of bovine TB to the human variety, it wasn't long after Bovigam's debut that CSL developed a similar tuberculosis test for humans, called Quantiferon. A huge breakthrough was the fact that the Quantiferon test required only one visit to the doctor to take a blood sample, with the results available within 24 hours, compared to the skin test which required an initial tuberculin injection and a second visit two or three days later to have the reaction measured and interpreted. Many people, especially those in the lower socioeconomic group who are most at risk from TB, fail to return to have their test read.

Despite all the obvious advantages, however, there was a danger the Quantiferon human technology might never have seen the light of day. The high cost of commercialising the product was a stumbling block for CSL, which later decided to sell off the human application.

And that's when Dr Wood and three of his former TB research colleagues, Tony Radford, Jim Rothel and Stephen Jones, came to the rescue. 'The four of us were sitting around having a few beers and talking about the development of Quantiferon,' recalls Dr Wood. 'We suddenly decided, 'why don't we do this ourselves – we believe in the technology, we can make this happen".'

And happen it did. Tony Radford and Jim Rothel sought private investment funds of about A$1 million and formed a start-up biotechnology company called Cellestis to buy the technology from CSL and commercialise Quantiferon. In April, 2001, the company was listed on the Australian Stock Exchange and since then has gone from strength to strength with a capital value today of about A$130 million and with a combined number of 45 million tests for TB occurring each year in Japan, the United States and Europe, the total sales of Quantiferon worldwide could exceed A$100 million per annum.

The product received a major boost in October 2002 when a Panel Review of the all-powerful Federal Drug Administration (FDA) in Washington voted unanimously after a six-hour hearing to approve the use of Quantiferon in the United States. 'It was a very emotional day,' says Dr Wood, who accompanied the Cellestis team to Washington and presented the Bovigam background to the research story. 'There was a lot at stake, and we were all extremely relieved and proud when the decision was announced.'

Quantiferon is now playing a vital part in the fight against TB, which claims three million lives each year, more than any other infectious disease. One third of the world's population is thought to be infected with TB, and the emergence of multiple drug resistant strains of the disease coupled with the increasing incidence of TB in HIV patients has added to the seriousness of the problem.

Further developments with Quantiferon now make it suitable to be used in tests for other diseases such as Legionnaire's and leprosy, and the monitoring of AIDS and cancer treatment.

Says Dr Wood: 'It has been a long haul and has taken a lot of energy, but from a scientific and commercial point of view, the results have been fantastic and the future looks just as exciting.'

Waterbeads

Australian scientists have handed the world a new weapon in the battle to meet the United Nations' millennium goal of halving the number of people without clean drinking water by 2015.

The MIEX® DOC process developed by Orica, CSIRO Molecular Science and SA Water Corporation is deceptively simple: just add small, magnetised beads of resin to water and stir. The beads remove dissolved organic carbon (DOC), allowing the water to be made cleaner and safer in less time and at less cost than other methods.

The global market for the process is estimated to be about US$300 million.

The need to remove DOC is one of the major problems facing water treatment authorities the world over. DOC is dissolved material from the breakdown of rotting vegetation. The material gets into water as it flows through forested areas with certain soil types. The organic chemical compounds themselves are harmless to humans, but they interfere with, and slow down the process of filtration and chlorination in water treatment plants.

The name MIEX® is derived from Magnetic Ion Exchange. The process uses a resin specially designed for the removal of negatively charged compounds. The resin also contains a component which allows the particles to act as weak magnets, giving them unique settling and other handling characteristics. The magnetised component of the resin ensures that over 99.9 per cent of the resin is recycled for further use, making the process cost effective compared with competing technologies.

Resin beads mixed into untreated water bind with the dissolved organic carbon, and are then removed while the water goes on to the next stage of treatment. The removal of DOC means lower quantities of chemicals are needed in subsequent treatment to remove other impurities. The MIEX® process guarantees drinking water that is superior in taste, appearance and smell.

United States water specialists have described MIEX® DOC as potentially the 'magic bullet' the world's water utilities have been searching for, but it has been a long road to success. The origins of the process lie way back in World War Two, when ion exchange resin beads were used (among other applications) to remove uranium isotopes from acid solutions. The beads soon proved useful in civilian life to purify water for boilers and stave off corrosion.

Then, about 30 years ago, CSIRO scientist Don Weiss had the idea of inserting small magnets inside the beads. In collaboration with ICI (now Orica) he explored various applications such as extracting impurities from Vegemite and removing salt from bore water. But it was a good idea before its time: the magnetised beads proved unsuitable for the proposed applications and prospective markets were too small to justify ICI's continued investment in the research.

The research lay dormant for the better part of a decade, until Professor Don Bursill from the Water Quality Centre for SA Water began exploring solutions to Adelaide's perennial quality problems. SA Water had found that if enough DOC could be removed, then lower quantities of chemicals were needed to make the water safe for drinking. The corporation experimented with ion exchange resin in a column to get rid of DOC, but when water was added, the column tended to clog up with twigs, leaves and algal scum. Magnetised beads, on the other hand, could be stirred around freely and worked regardless of any debris in the water.

Professor Bursill approached Orica, asking if it was interested in revisiting its research on magnetised beads in a collaborative project. Orica agreed, and brought in CSIRO's Dr Matt Ballard, who had worked on the program years before as a scientist with ICI. By 1993, he and his colleagues had designed a new magnetised resin that worked well in tests by water utilities in SA and WA. Finally after so many years in the pipeline, magnetised resin beads were on their way to the marketplace.

MIEX® DOC is now in commercial use at treatment plants in SA and WA, and Orica has built a multi-million dollar manufacturing plant in Melbourne. The research effort was further boosted in 1999 with a A$1 million START grant from the Department of Industry, Science and Training. The grant helped the team to broaden its scope, researching new resins and increasing the range of potential applications beyond drinking water. Possibilities include industrial processing and wastewater.

Orica Watercare United States Inc was established in 2001 as part of the move to break into the lucrative American market. It won its first contract in 2003 to build a new water treatment plant at Franklin, Alabama. Three more plants have been secured in the United States since. The technology's potential has also seen an office open in the United Kingdom, an agent appointed in Asia and a series of trials in South Africa. It is anticipated that globally by 2008, over three billion litres of water per day will be treated using the MIEX® process. To cater for the demand, Orica plans to expand the Australian manufacturing facility and build another plant offshore.

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7. Appendixes

Appendix 1: Survey respondents

	2001	2002	Time series (i.e. 2000, 2001 and 2002)
Universities			
Australian Catholic University	Y	Y	Y
Central Queensland University	Y	Y	Y
Charles Darwin University (formerly Northern Territory University)	Y	Y	Y
Charles Sturt University	Y	Y	Y
Curtin University of Technology		Y	
Deakin University	Y	Y	Y
Edith Cowan University	Y	Y	Y
Griffith University	Y	Y	Y
James Cook University	Y	Y	Y
La Trobe University	Y	Y	Y
Macquarie University		Y	
Monash University	Y	Y	Y
Murdoch University	Y	Y	Y
Queensland University of Technology	Y	Y	Y
Royal Melbourne Institute of Technology	Y	Y	Y
Southern Cross University	Y	Y	Y
Swinburne University of Technology	Y	Y	Y
The Australian National University	Y	Y	Y
The Flinders University of South Australia	Y	Y	Y
The University of Adelaide	Y	Y	Y
The University of Melbourne	Y	Y	Y
The University of New England	Y	Y	Y
The University of New South Wales	Y	Y	Y
The University of Newcastle	Y	Y	Y
The University of Notre Dame Australia	Y	Y	Y
The University of Queensland	Y	Y	Y
The University of Sydney	Y	Y	Y
The University of Western Australia	Y	Y	Y
University of Ballarat	Y	Y	Y
University of Canberra	Y	Y	
University of South Australia	Y	Y	Y
University of Southern Queensland	Y	Y	
University of Tasmania	Y	Y	Y
University of Technology, Sydney	Y	Y	Y
University of Sunshine Coast	Y	Y	
University of Western Sydney		Y	
University of Wollongong	Y	Y	Y
Victoria University of Technology	Y	Y	Y
Medical Research Institutes			
Austin Research Institute	Y	Y	
Australian Neuromuscular Research Institute		Y	
Baker Heart Research Institute	Y	Y	
Brain Research Institute	Y	Y	
Centenary Institute of Cancer Medicine & Cell Biology	Y	Y	Y
Child Health Research Institute	Y		
Fremantle Heart Institute	Y	Y	
Garvan Institute of Medical Research	Y	Y	
Genomic Disorders Research Centre	Y	Y	
Howard Florey Institute	Y	Y	Y
Institute of Dental Research	Y	Y	
Lions Ear and Hearing Institute		Y	
Ludwig Institute for Cancer Research	Y	Y	
Macfarlane Burnet Institute for Medical Research and Public Health	Y	Y	Y
Melbourne Health	Y	Y	Y
Mental Health Research Institute	Y	Y	
Menzies School of Health Research	Y	Y	Y
Murdoch Children's Research Institute	Y	Y	Y

continued over

Appendix 1: continued

	2001	2002	Time series (i.e. 2000, 2001 and 2002)
National Heart Foundation of Australia	Y	Y	
National Stroke Research Institute	Y	Y	
National Vision Research Institute of Australia	Y	Y	
Neuroscience Institute of Schizophrenia and Allied Disorders	Y	Y	
NSW State Cancer Council	Y	Y	
Peter Mac Callum Cancer Institute	Y	Y	Y
Prince Henry's Institute of Medical Research	Y	Y	Y
Prince of Wales Medical Research Institute	Y	Y	
Queensland Institute of Medical Research		Y	
Royal Brisbane & Women's Hospital Foundation	Y	Y	
Royal North Shore Hospital	Y	Y	Y
St Vincent's Institute of Medical Research	Y	Y	
Telethon Institute for Child Health Research	Y	Y	Y
The Heart Research Institute	Y	Y	
Turning Point Alcohol and Drug Centre	Y	Y	
Victor Chang Cardiac Research Institute	Y	Y	Y
Victorian Breast Cancer Research Consortium	Y	Y	
Walter and Eliza Hall Institute of Medical Research	Y	Y	Y
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	**Y**	**Y**	**Y**
Cooperative Research Centres			
Asthma Ltd	Y	Y	
Australian Cotton	Y	Y	
Australian Petroleum	Y	Y	
Australian Photonics	Y		
Australian Poultry Pty Ltd	Y	Y	
Australian Sheep Industry	Y	Y	
Australian Telecommunications	Y	Y	
Australian Weed Management		Y	
Bioproducts	Y	Y	
Capital Markets CRC Limited	Y	Y	
Cast Metals Manufacturing	Y	Y	
Catchment Hydrology	Y	Y	
Cattle and Beef Quality		Y	
Cellular Growth Factors		Y	
Chronic Inflammatory Diseases	Y	Y	
Clean Power from Lignite	Y	Y	
Coal in Sustainable Development	Y	Y	
Coastal Zone, Estuary and Waterway Management	Y	Y	
Construction Innovation	Y	Y	
Discovery of Genes for Common Human Diseases	Y	Y	
Distributed Systems Technology Centre (DSTC) Pty Ltd	Y	Y	
Eye Research and Technology	Y	Y	
Freshwater Ecology	Y	Y	
Functional Communication Surfaces	Y	Y	
Hydrometallurgy		Y	
Innovative Dairy Products	Y	Y	
Innovative Wood Manufacturing	Y	Y	
Interaction Design	Y	Y	
Landscape Environments & Mineral Exploration	Y	Y	
MicroTechnology	Y	Y	
Molecular Plant Breeding	Y	Y	
Pest Animal Control		Y	
Plant-based Management of Dryland Salinity	Y	Y	
Polymers	Y	Y	
Predictive Mineral Discovery		Y	
Railway Engineering and Technologies	Y	Y	
Smart Internet Technology	Y	Y	
Sugar Industry Innovation through Biotechnology	Y	Y	
Sustainable Aquaculture of Finfish	Y	Y	
Sustainable Production Forestry	Y	Y	
Sustainable Rice Production	Y	Y	
Sustainable Tourism	Y	Y	
The Great Barrier Reef World Heritage Area		Y	
Tropical Plant Protection	Y	Y	

continued over

Appendix 1: continued

	2001	2002	Time series (i.e. 2000, 2001 and 2002)
Tropical Rainforest Ecology and Management	Y	Y	
Tropical Savannas	Y	Y	
Vaccine Technology	Y	Y	
Value Added Wheat	Y	Y	
Other Publicly Funded Research Agencies			
Australian Institute of Marine Science (AIMS)	Y	Y	
Australian Nuclear Science and Technology Organisation (ANSTO)	Y	Y	
Defence Science and Technology Organisation (DSTO)	Y	Y	

Appendix 2: Survey Questionnaires – 2001 and 2002

National Survey of Research Commercialisation Year 2001 and Year 2002

(ABS Statistical Clearing House Approval Number 01076-01)

Australian Government
Department of Education, Science and Training

Legend
(e) Explanatory Memorandum
(?) About the questions
(DEF) Definitions
(a) About the form - technical questions

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• 2001 questionnaire pdf
• 2002 questionnaire pdf
• Explanatory Memorandum pdf

2001 Questionnaire

1.	Institution details (e) (?)	
1.a	Name of institution	
1.b	Type of institution	
1.c	Does your institution have a medical school?	Yes: ○ No: ○

2.	Contact details *(the following should reflect the appropriate individual to be contacted should clarification of the data be required)* (e) (?)	
2.a	Name	Title: Given: Surname:
	Office	
	City	Postcode:
	Telephone	
	Fax	
	Email	

3.	Reporting Period and Program start date (e) (?)	
3.a	What is the reporting period for data entered in this questionnaire?	○ Calendar Year (Starting 1 Jan 2001) ○ Fiscal Year (Starting 1 July 2001)
3.b	In what year did your institution first dedicate at least one half-time commercialisation staff (0.5 FTE) to commercialisation activities?	E.g. 1998

4.	Commercialisation FTE staff	
4.a	How many commercialisation FTEs were employed in your institution in 2001?	
4.b	How many other FTEs were employed in your institution in 2001 to support commercialisation activities?	
4.c	In 2001 how many of the 0 (figure from 4.a. and 4.b.) FTEs were employed in:	a dedicated commercialisation office: or a commercialisation company:

5.	Research expenditures
5.a	The data for question 5.a is not required for the reporting period of 2001. Please go to question 6.

6.	How many Licence/Option/Assignments (LOAs) did your institution execute in 2001? How many LOAs executed in the year 2001 included equity? How many LOAs were active as of the last day in 2001?			
		Executed	Executed with equity	Active as of the last day in the reporting period
6.a	2001 only	(6.a.1)	(6.a.2)	(6.a.3)
6.b	Cumulative from ____ to end of 2001 Note: replace "____" with the year that your cumulative count begins.	(6.b.1)	(6.b.2)	(6.b.3)

6.c	Of the respective figures provided in 6.b.1, 6.b.2 and 6.b.3, for LOAs executed during the cumulative period, please estimate the percentage which originated from the following research areas:			
		Executed	Executed with equity	Active as of the last day in the cumulative period
	Biological Sciences and Biotechnology	%	%	%
	Physical, Chemical and Earth Sciences	%	%	%
	Mathematics, Information and Communication Sciences	%	%	%
	Social, Behavioural and Economic Sciences	%	%	%
	Humanities and Creative Arts	%	%	%
	Engineering and Environmental Sciences	%	%	%
	Health and Clinical Sciences	%	%	%
	Other	%	%	%

6.d	CRC data for 2001	
	[ANSWER ONLY IF YOU ARE A NON-CRC INSTITUTION] If your institution is not a CRC, but is a participant (core or supporting) in one or more CRCs, please indicate how many CRCs from the drop-down menu.	

6.e	**[ANSWER ONLY IF YOU ARE A NON-CRC INSTITUTION]** Please provide the percentage of equity, the number of LOAs executed, the number of LOAs executed with equity and the number of LOAs active as of the last day in 2001, for each of the CRCs in 6.d.					
		CRC Name	Percentage of equity	Executed	Executed with equity	Active as of the last day in 2001
	CRC 1		%			

6.f	Using the total number (0) of LOAs reported in 6.a.1 for year 2001, allocate the appropriate numbers of LOAs in each of the categories reflecting inventor involvement in the commercialisation process. The total counts should be the same as in 6.a.1.	
	Inventor involvement	Number of LOAs
	Extremely involved	
	Very involved	
	Moderately involved	
	Somewhat involved	
	Uninvolved	
		TOTAL (must be the same as figure in 6.a.1)

6.g	Of the 0 (figure from 6.a.1) LOAs executed in 2001 how many were to: (Do not include CRC data)			
		Exclusive	Non-Exclusive	Total
	Start-ups			0
	Small companies (1-19 employees)			0
	Medium companies (20-199 employees)			0
	Large companies (200 or more employees)			0
	TOTAL	0	0	0 (figure from 6.a.1)

7.	Research funding related to licencing (Do not include CRC data)	
7.a	How much research funding was committed to your institution by licensees/assignees in 2001 (includes multi-year commitments) as a consequence of LOAs executed in 2001 or as a consequence of LOAs executed in a prior year?	$

8.	Income from LOAs **[ALL SURVEYED INSTITUTIONS TO FILL IN ROW 1 FOR 2001];** **[NON-CRC INSTITUTIONS ONLY TO FILL IN ADDITIONAL INFORMATION FOR CRCs FOR 2001]**			
		8.a.1 What was the total amount of LOA income received at your institution in 2001?	8.a.2 What was the total number of LOAs yielding licences income in 2001?	8.a.3 In 2001 how much of the income reported in 8.a.1 was paid to other institutions or commercial entities?
	2001	$		$
	2001 CRC 1:	$		$

8.b	In 2001 how much of the $0 (figure from 8.a.1) LOA income received can be attributed to:		
	Number of LOAs yielding income		Amount ($)
8.b.1		Running royalties amounting to	$
8.b.2		Cashed-in equity amounting to	$
8.b.3		All other types amounting to	$
	0 (figure from 8.a.2) amounting to		$0 (figure from 8.a.1)

9.	Patent/legal fees expenditures and patent/legal fees reimbursements Costs expended for statutory protection of intellectual property. View definition of Legal Fees etc in the Explanatory Memorandum. Note that under the definition Legal Fees are related only to patents etc, not to contract drafting or advice.	
9.a	In 2001 how much did your institution spend in external patent fees (patent fees expenditures) for patents and/ or copyrights?	$
9.b	In 2001 how much did your institution receive in reimbursements for these fees from licences (patent fees reimbursements)?	$

10.	Equity **[ALL SURVEYED INSTITUTIONS TO FILL IN ROW 1 FOR 2001];** **[NON-CRC INSTITUTIONS ONLY TO FILL IN ADDITIONAL INFORMATION FOR CRCs FOR 2001]**		
		10.a What was the value of all equity holdings at the end of 2001?	10.b How much cash did your institution receive from cashed-in equity at the end of year 2001?
	2001	$	$0 (figure from 8.b.2)
	2001 CRC 1:	$	$

11.	Patent related activity (including Plant Breeder Rights)	
11.a	In 2001 how many invention disclosures did your institution receive?	
11.b.1	In 2001 how many patent applications were filed?	
11.b.2	Of the total patent applications filed in 2001, how many of these filings were new patent applications?	in Australia in US
11.c.1	In 2001 how many new patents were issued to your institution? (Total worldwide including US)	
11.c.2	Of the total patents issued in 2001, how many of these were new patents?	in Australia in US
11.d	How many of the applications filed in 2001 were PCT applications?	

12.	Start-up companies	
12.a	How many start-up companies were formed during 2001 that were dependent upon the licensing or assignment of your institution's technology for initiation?	
12.b.1	How many of the 0 (figure from 12.a) start-up companies had their place of business operating in Australia?	
12.b.2	How many of the 0 (figure from 12.a) start-up companies had their headquarters in Australia?	
12.c	How many start-up companies that were dependent upon the licensing/ assignment of your institution's technology for initiation were operational as of the last day in 2001?	
12.d	How many start-up companies that were dependent upon the licensing/ assignment of your institution's technology for initiation became non-operational as of the last day in 2001?	
12.e	In how many of the 0 (figure from 12.c) operational start-up companies does your institution hold equity?	

12.f	Names and contact details of start-up companies	
	Please provide details for each of the start-up companies that were formed in 2001 to allow for survey follow-up if required.	
	Start-up Company 1	
	Name of company	
	Address	
	Suburb	State: Postcode:
	Country	
	Telephone	
	Fax	
	Email	
	ABN or ACN	

13.	Licences, technologies and post-licensing activities	
13.a	How many of your institution's licensed or assigned technologies became available for consumer (public) or commercial use in 2001?	

14	Product sales-related success stories
14.a	Describe, for as many technologies as you wish to highlight, important licensing milestones that occurred in the year 2001. Sample licence-related milestones: • the product became available for sale to the public in the year 2001 • the product received regulatory approval in the year 2001 • the product reached an earned royalty milestone in the year 2001, for example $100 000/year • other (please explain)

	Success Story 1	
	Name of product/process/service	
	Description of product/process/ service	

	Significant milestone	
	Licensee (if DEST may use the name in publications)	
	Licensee (generic description, for example, small biotech firm, large pharmaceutical company etc.)	
	Description of the public benefit and/ or economic impact	
	What was the main source of funding for the research that underpinned the development of the subject technology? (e.g. ARC, NHMRC, industry, Commonwealth institutional operating grants, State government)	
	From which academic/research discipline did the product/process/ service primarily originate?	

Please provide any links to web pages, documents etc. on the internet about this product/process/service.

Or click here to send AIC an email. Note: please attach electronic documents to the email and specify the name of your institution and the name of the product/process/service.

Or post hard copies to Ruth Drinkwater PO Box 4425 Eight Mile Plains QLD 4113

Add success story **Remove success story**

15. Time taken to complete this Questionnaire

15.a Please provide an estimate of the time (in hours and minutes) taken to complete this questionnaire including:

- Time taken actually spent reading the instructions, working on the questions and obtaining the information
- Time spent by all employees in collecting and providing this information.

hours minutes

16. Comments on this Questionnaire

16.a Please provide comments on:

- Any of the information you have supplied in this Questionnaire
- Any questions which caused problems
- Suggested improvements to this Questionnaire

National Survey of Research Commercialisation Year 2001 and Year 2002

(ABS Statistical Clearing House Approval Number 01076-01)

Australian Government
Department of Education, Science and Training

Legend
(e) Explanatory Memorandum
(?) About the questions
(DEF) Definitions
(a) About the form - technical questions

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2002 Questionnaire

1.	Institution details (e) (?)	
1.a	Name of institution	
1.b	Type of institution	
1.c	Does your institution have a medical school?	Yes: ○ No: ○

2.	Contact details *(the following should reflect the appropriate individual to be contacted should clarification of the data be required)* (e) (?)	
2.a	Name	Title: Given: Surname:
	Office	
	City	Postcode:
	Telephone	
	Fax	
	Email	

3.	Reporting Period and Program start date (e) (?)	
3.a	What is the reporting period for data entered in this questionnaire?	○ Calendar Year (Starting 1 Jan 2002) ○ Fiscal Year (Starting 1 July 2002)
3.b	In what year did your institution first dedicate at least one half-time commercialisation staff (0.5 FTE) to commercialisation activities?	E.g. 1998

4.	Commercialisation FTE staff	
4.a	How many commercialisation FTEs were employed in your institution in 2002?	
4.b	How many other FTEs were employed in your institution in 2002 to support commercialisation activities?	
4.c	In 2002 how many of the 0 (figure from 4.a. and 4.b.) FTEs were employed in:	a dedicated commercialisation office: or a commercialisation company:

5.	Research expenditures	
5.a	What was your institution's annual amount of research expenditure (include both direct and indirect costs) in Year 2002? (Note: institutions should provide the same figure they have provided to the Australian Bureau of Statistics for its survey of Research and Experimental Development – for either Higher Education Organisations (8111.0) for the year ending 31 December 2002, Businesses (8104.0) for the year ending 30 June 2002 or Government or Private Non-Profit Organisations (8109.0) for the year ending 30 June 2001. If equivalent data are available for a later period, please provide that data.	Research expenditure in reporting period: $
	Please indicate specific reporting period for question 5.a:	

6.	How many Licence/Option/Assignments (LOAs) did your institution execute in 2002? How many LOAs executed in the year 2002 included equity? How many LOAs were active as of the last day in 2002?			
		Executed	Executed with equity	Active as of the last day in the reporting period
6.a	2002 only	(6.a.1)	(6.a.2)	(6.a.3)
6.b	Cumulative from ____ to end of 2002 Note: replace "____" with the year that your cumulative count begins.	(6.b.1)	(6.b.2)	(6.b.3)

6.c	Of the respective figures provided in 6.b.1, 6.b.2 and 6.b.3, for LOAs executed during the cumulative period, please estimate the percentage which originated from the following research areas:			
		Executed	Executed with equity	Active as of the last day in the cumulative period
	Biological Sciences and Biotechnology	%	%	%
	Physical, Chemical and Earth Sciences	%	%	%
	Mathematics, Information and Communication Sciences	%	%	%
	Social, Behavioural and Economic Sciences	%	%	%
	Humanities and Creative Arts	%	%	%
	Engineering and Environmental Sciences	%	%	%
	Health and Clinical Sciences	%	%	%
	Other	%	%	%

6.d	CRC data for 2002	
	[ANSWER ONLY IF YOU ARE A NON-CRC INSTITUTION] If your institution is not a CRC, but is a participant (core or supporting) in one or more CRCs, please indicate how many CRCs from the drop-down menu.	

6.e	**[ANSWER ONLY IF YOU ARE A NON-CRC INSTITUTION]** Please provide the percentage of equity, the number of LOAs executed, the number of LOAs executed with equity and the number of LOAs active as of the last day in 2002, for each of the CRCs in 6.d.					
		CRC Name	Percentage of equity	Executed	Executed with equity	Active as of the last day in 2002
	CRC 1		%			

6.f	Using the total number (0) of LOAs reported in 6.a.1 for year 2002, allocate the appropriate numbers of LOAs in each of the categories reflecting inventor involvement in the commercialisation process. The total counts should be the same as in 6.a.1.	
	Inventor involvement	Number of LOAs
	Extremely involved	
	Very involved	
	Moderately involved	
	Somewhat involved	
	Uninvolved	
		TOTAL (must be the same as figure in 6.a.1)

6.g	Of the 0 (figure from 6.a.1) LOAs executed in 2002 how many were to: (Do not include CRC data)			
		Exclusive	Non-Exclusive	Total
	Start-ups			0
	Small companies (1-19 employees)			0
	Medium companies (20-199 employees)			0
	Large companies (200 or more employees)			0
	TOTAL	0	0	0 (figure from 6.a.1)

7.	Research funding related to licencing (Do not include CRC data)	
7.a	How much research funding was committed to your institution by licensees/assignees in 2002 (includes multi-year commitments) as a consequence of LOAs executed in 2002 or as a consequence of LOAs executed in a prior year?	$

8.	Income from LOAs **[ALL SURVEYED INSTITUTIONS TO FILL IN ROW 1 FOR 2002];** **[NON-CRC INSTITUTIONS ONLY TO FILL IN ADDITIONAL INFORMATION FOR CRCs FOR 2002]**			
		8.a.1 What was the total amount of LOA income received at your institution in 2002?	8.a.2 What was the total number of LOAs yielding licences income in 2002?	8.a.3 In 2002 how much of the income reported in 8.a.1 was paid to other institutions or commercial entities?
	2002	$		$
	2002 CRC 1:	$		$

8.b	In 2002 how much of the $0 (figure from 8.a.1) LOA income received can be attributed to:		
	Number of LOAs yielding income		Amount ($)
8.b.1		Running royalties amounting to	$
8.b.2		Cashed-in equity amounting to	$
8.b.3		All other types amounting to	$
	0 (figure from 8.a.2) amounting to		$0 (figure from 8.a.1)

9.	Patent/legal fees expenditures and patent/legal fees reimbursements Costs expended for statutory protection of intellectual property. View definition of Legal Fees etc in the Explanatory Memorandum. Note that under the definition Legal Fees are related only to patents etc, not to contract drafting or advice.	
9.a	In 2002 how much did your institution spend in external patent fees (patent fees expenditures) for patents and/or copyrights?	$
9.b	In 2002 how much did your institution receive in reimbursements for these fees from licences (patent fees reimbursements)?	$

10.	Equity **[ALL SURVEYED INSTITUTIONS TO FILL IN ROW 1 FOR 2002];** **[NON-CRC INSTITUTIONS ONLY TO FILL IN ADDITIONAL INFORMATION FOR CRCs FOR 2002]**	10.a What was the value of all equity holdings at the end of 2002?	10.b How much cash did your institution receive from cashed-in equity at the end of year 2002?
	2002	$	$0 (figure from 8.b.2)
	2002 CRC 1:	$	$

11.	Patent related activity (including Plant Breeder Rights)	
11.a	In 2002 how many invention disclosures did your institution receive?	
11.b.1	In 2002 how many patent applications were filed?	
11.b.2	Of the total patent applications filed in 2002, how many of these filings were new patent applications?	in Australia in US
11.c.1	In 2002 how many new patents were issued to your institution? (Total worldwide including US)	
11.c.2	Of the total patents issued in 2002, how many of these were new patents?	in Australia in US
11.d	How many of the applications filed in 2002 were PCT applications?	

12.	Start-up companies	
12.a	How many start-up companies were formed during 2002 that were dependent upon the licensing or assignment of your institution's technology for initiation?	
12.b.1	How many of the 0 (figure from 12.a) start-up companies had their place of business operating in Australia?	
12.b.2	How many of the 0 (figure from 12.a) start-up companies had their headquarters in Australia?	
12.c	How many start-up companies that were dependent upon the licensing/ assignment of your institution's technology for initiation were operational as of the last day in 2002?	
12.d	How many start-up companies that were dependent upon the licensing/ assignment of your institution's technology for initiation became non-operational as of the last day in 2002?	
12.e	In how many of the 0 (figure from 12.c) operational start-up companies does your institution hold equity?	

12.f	Names and contact details of start-up companies	
	Please provide details for each of the start-up companies that were formed in 2002 to allow for survey follow-up if required.	
	Start-up Company 1	
	Name of company	
	Address	
	Suburb	State: Postcode:
	Country	
	Telephone	
	Fax	
	Email	
	ABN or ACN	

13.	Licences, technologies and post-licensing activities	
13.a	How many of your institution's licensed or assigned technologies became available for consumer (public) or commercial use in 2002?	

14	Product sales-related success stories
14.a	Describe, for as many technologies as you wish to highlight, important licensing milestones that occurred in the year 2002. Sample licence-related milestones: • the product became available for sale to the public in the year 2002 • the product received regulatory approval in the year 2002 • the product reached an earned royalty milestone in the year 2002, for example $100 000/year • other (please explain)

	Success Story 1	
	Name of product/process/service	
	Description of product/process/ service	

	Significant milestone	
	Licensee (if DEST may use the name in publications)	
	Licensee (generic description, for example, small biotech firm, large pharmaceutical company etc.)	
	Description of the public benefit and/or economic impact	
	What was the main source of funding for the research that underpinned the development of the subject technology? (e.g. ARC, NHMRC, industry, Commonwealth institutional operating grants, State government)	
	From which academic/research discipline did the product/process/service primarily originate?	
	Please provide any links to web pages, documents etc. on the internet about this product/process/service. Or click here to send AIC an email. Note: please attach electronic documents to the email and specify the name of your institution and the name of the product/process/service. Or post hard copies to Ruth Drinkwater PO Box 4425 Eight Mile Plains QLD 4113	
	Add success story **Remove success story**	

15.	Time taken to complete this Questionnaire	
15.a	Please provide an estimate of the time (in hours and minutes) taken to complete this questionnaire including: • Time taken actually spent reading the instructions, working on the questions and obtaining the information • Time spent by all employees in collecting and providing this information.	hours minutes

16.	Comments on this Questionnaire	
16.a	Please provide comments on: • Any of the information you have supplied in this Questionnaire • Any questions which caused problems • Suggested improvements to this Questionnaire	

Appendix 3: Explanatory Memorandum to the Survey Questionnaire

Explanatory Memorandum National Survey of Research Commercialisation Year 2001 & 2002

1. NOTES:

These notes and definitions will clarify the questions and terms and will facilitate completion of the subject Questionnaire. If you are not able to provide an exact response to a question, please provide your best estimate to each question, instead of no answer at all. Recognising that misinterpretations may still occur, you are encouraged to contact Ruth Drinkwater at the Australian Institute for Commercialisation on telephone 07 3853 5286 or by email at <r.drinkwater@ausicom.com> if clarification is required. The questionnaires request data for the complete year for both 2001 and 2002, regardless of whether your reporting period is a fiscal or calendar year.

Instructions to use, access, download, complete, print and email the forms and documents associated with this survey are provided in 'About this form'. Capitalised words in this Explanatory Memorandum are defined in the Definitions below. In both survey forms, each term which has an associated definition has been dynamically linked to the definition. The '?' icon will also link you to the Explanatory Memorandum note which relates directly to that question.

2. INSTRUCTIONS:

Currency amounts should be submitted in Australian dollars. Conversion to other currencies for comparison purposes will be completed at the time of data entry, using a recognised published exchange rate. Research Expenditures: FEDERAL GOVT. AND STATE GOVT. SOURCES refers to research expenditures that were supported by respective Australian government sources; this amount does not include expenditures funded by regional government sources. TOTAL AND NEW AUSTRALIAN AND US PATENT APPLICATIONS FILED refers to applications filed in the respective countries. AUSTRALIAN AND US PATENTS ISSUED refers to patents issued and in force in the respective countries.

3. CRC INFORMATION:

Notes relating to Cooperative Research Centre (CRC) survey participation: CRCs have been invited to participate in the survey. Each CRC has the opportunity to fill in a questionnaire as a participating institution.

Under the same arrangements as for the Year 2000 Survey, the Questionnaire will still seek some information from other (non-CRC) institutions for CRCs in which those institutions are a participant (core or supporting). Specific provision is made for this data in questions 6.d, 6.e, 8.a, 10.a and 10.b. Other than these questions, non-CRC institutions should not include data for CRCs.

Non-CRC institutions: CRC data are requested in some sections of this Questionnaire [questions 6.d, 6.e, 8.a, 10.a and 10.b]. For these questions (as was the case in the Year 2000 survey), non-CRC institutions should provide information for CRCs in which they are a participant (core or supporting). For other questions, CRC data should not be included by non-CRC institutions.

Please note: Non-CRC institutions completing this question are asked to provide data relating to CRC commercialisation activities to provide your institution with the opportunity to have those commercialisation activities attributed to your total commercialisation activity.

CRCs: This year CRCs have been invited to participate in the Survey. Each CRC has the opportunity to complete a survey Questionnaire in its own right. CRCs should ignore sections of the Questionnaire which specifically request CRC data [questions 6.d, 6.e, 8.a, 10.a and 10.b], as these sections will be completed by non-CRC institutions.

4. ABOUT THE QUESTIONS:

Do not leave any questions blank, do not use a hyphen to respond and in number fields, use only numbers. If the data are not available, show '0'. If the data are zero in any number field, please make a note in the comments/notes field at the end of the survey form or send an email to the Australian Institute for Commercialisation <r.drinkwater@ausicom.com>. If data are not available for any text field please indicate 'N.A.'.

A discussion of the questions follows to aid in an accurate interpretation of the question for which data are requested.

Question 1: Self-explanatory.

Question 2: Self-explanatory.

Question 3: In the first part, indicate whether the reporting periods for Year 2001 and 2002 are calendar or fiscal years including the beginning and end dates for the latter.

In the second part, enter the year in which your institution assigned at least one half-time (0.5 FULL TIME EQUIVALENT (FTE)) COMMERCIALISATION STAFF in support of COMMERCIALISATION ACTIVITIES. The reported year will be used as the start of COMMERCIALISATION ACTIVITY at your institution. The individual assigned to COMMERCIALISATION ACTIVITIES may or may not have had a formal commercialisation or similar job title and may or may not have been in an organisational unit with 'commercialisation' or 'technology transfer' in its title, i.e., a commercialisation office or company. Examples of commercialisation FTEs include: full time equivalents of staff working on commercialisation through licensing, sale of intellectual property or formation of start-up companies. Do not include administrative assistance or in-house or external legal counsel, unless they are playing a direct commercialisation role. Do not include people working on contracts for research (other than as part of licensing), course delivery, consulting or other activities.

Question 4: See definitions for COMMERCIALISATION FTE when responding to this question. You are requested to report the COMMERCIALISATION FTEs in your institution by full or fractional FTEs for commercialisation (as defined in COMMERCIALISATION FTE). The inclusion of activity in COMMERCIALISATION FTE will be used to correlate the data collected in this Survey with other similar measures.

Question 5: This question is in the 2002 survey only.

5.a This question asks for the reporting of research expenditure data in 2002. You are requested to report the same figures provided by your institution to the Australian Bureau of Statistics in the appropriate Research and Experimental Development survey, or equivalent data for a later time period. You are asked to indicate the specific reporting period for this question. If your institution has had an amount for Capital Use Charge (CUC) applied, which is paid back to the government for accrual accounting purposes, please discount your response by this amount.

Question 6: For all parts of this question, see definition of LICENCE/OPTION but include assignments to a company as part of the commercialisation process where assignment has been negotiated rather than a licence. Treat an 'active' assignment as one with on-going financial benefits to the institution (e.g. milestone payments).

Questions 6.a to 6.f should include software technologies but not trade secrets.

For 6.b the 'Cumulative to year 2001 or 2002', please indicate the year from which your cumulative count begins.

6.d [ANSWER ONLY IF YOU ARE A NON-CRC INSTITUTION] If your institution is not a CRC, but is a participant (core or supporting) in one or more CRCs, please indicate the number of CRCs from the drop-down menu. This will generate the required number of fields in an optional question 6.e.

Please note: Non-CRC institutions completing this question are asked to provide data relating to CRC commercialisation activities to provide your institution with the opportunity to have those commercialisation activities attributed to your total commercialisation activity.

6.e [ANSWER ONLY IF YOU ARE A NON-CRC INSTITUTION] Please provide the percentage of equity, the number of LOAs executed, the number of LOAs executed with equity and the number of LOAs active as of the last day in 2001 or 2002, for each of the CRCs in 6.d. Names of CRCs are requested to enable identification of data sets and these fields are automatically generated in subsequent questions (8 and 10) where specific CRC data are also requested. When indicating CRC name omit from the title 'CRC for' or 'Centre for' to use space economically. Report data for any CRC for which an employee of your institution has been an inventor/copyright creator for which licences/assignments have been executed through the CRC. Report total numbers of actual LOAs in columns 2, 3 and 4, not your institution's equity share of those LOAs (or sum of equity shares). The survey analysis will take into account your institution's percentage equity. For each CRC in which your institution holds equity, please indicate the percentage of equity held as at the end of your reporting period.

If your institution is a non-CRC institution, is not a participant (core or supporting) in any CRC and your answer to Q 6.d is zero (0), you will not see the fields for Q 6.e (or in subsequent Qs 8 and 10). Proceed to Q6.f.

6.f You are asked to allocate the LOA counts into categories reflecting inventor involvement in the commercialisation process. Eg 1 licence where the inventor was extremely involved, 1 where the inventor was moderately involved and 2 licences where the inventor was uninvolved etc. The total number of licences must be the same as the number provided in 6.a.1.

6.g The total of LICENCES/OPTIONS/ASSIGNMENTS (LOA) negotiated as EXCLUSIVE and NON-EXCLUSIVE LICENCES will equal the number of LOA executed in Year 2001 or 2002 (same as 6.a.1) and the sum of LOAs executed as EXCLUSIVE and NON-EXCLUSIVE licences with START-UPS, SMALL COMPANIES, MEDIUM COMPANIES and LARGE COMPANIES will equal the number of LOAs executed in Year 2001 or 2002 (same as 6.a.1). Include any licensee/assignee entity as a 'company', including, for example, public agencies.

Question 7: This question requires reporting of research funding committed to the institution in YEAR 2001 and 2002 that is related to LICENCE/OPTION/ASSIGNMENT (LOA) AGREEMENTS signed either in YEAR 2001, 2002 or in an earlier year. Specifically, it allows for the reporting of research funding that is a result of a renewal of a research agreement and linked to an LOA AGREEMENT signed in an earlier year. To respond to this question, you should review the LOA AGREEMENTS reported as executed in Question 6.a.1 of the Questionnaire and report the amount of RESEARCH FUNDING (even if multi-year) committed to the institution that was related to these LOA. Please note that the amount being sought is the totality of RESEARCH FUNDING before disbursements for any costs associated with the Licences/Options/Assignments. In addition, you may also consider research agreements that were renewed in YEAR 2001 and 2002. If the renewed research agreement was related to an LOA AGREEMENT signed in a prior year you may include the amount of funding committed through the renewal of the research agreement in your response.

Question 8: Income from LOAs [ALL SURVEYED INSTITUTIONS TO FILL IN ROW 1 FOR 2001 AND 2002] [NON-CRC INSTITUTIONS ONLY TO FILL IN ADDITIONAL INFORMATION FOR CRCs FOR 2001 AND 2002]

In the first row of question 8 (8.a.1, 8.a.2 and 8.a.3) include income to your institution's income from distributions of CRC licences. CRC data are required for Year 2001 and 2002 and non-CRC Institutions who have previously indicated participation in a number of CRCs (Q 6.d) will see automatically generated rows for those respective CRCs indicated, to provide additional data. Use total figures from CRCs (do not take into account your percentage equity). Section 8.b requests additional detailed data.

8.b you are also asked to provide the number of LICENCES/OPTIONS/ASSIGNMENTS that yielded the amount of RUNNING ROYALTIES, CASHED-IN EQUITY and other types of LOA income reported. The sum of LICENCE/OPTION/ASSIGMENT INCOME RECEIVED apportioned to RUNNING ROYALTIES, CASHED-IN EQUITY, and all other types, that is all forms not classified as the foregoing including milestone payments, annual licence fees and termination fees, will equal LICENCE/OPTION/ ASSIGNMENT INCOME RECEIVED for Year 2001 and 2002 (same as 8.a.1).

Question 9: Please provide the amount of costs/reimbursements for external legal fees and reimbursements (see definitions below for PATENT/LEGAL FEES EXPENDITURES and PATENT/ LEGAL FEES REIMBURSEMENTS). Please include all costs and reimbursements in 2001 and 2002, even if the reimbursements relate to licences from previous years. Omit significant litigation expense because legal fees are defined to include patent and copyright prosecution, maintenance, and interference costs, as well as minor litigation expenses that are included in everyday commercialisation office expenditures (an example of a minor litigation expense might be the cost of an initial letter to a potential infringer written by counsel), and to exclude significant litigation expense, e.g. any individual litigation expense that exceeds 5 per cent of total PATENT/LEGAL FEES EXPENDITURES. The refinement to litigation expense is intended to eliminate skews in the data as a result of significant litigation. It is also required to obtain more accurate results in copyright and patent maintenance and prosecution costs as well as to provide meaningful comparisons of these data across institutions.

Question 10: [ALL SURVEYED INSTITUTIONS TO FILL IN ROW 1 FOR 2001 AND 2002] [NON-CRC INSTITUTIONS ONLY TO FILL IN ADDITIONAL INFORMATION FOR CRCs FOR 2001 AND 2002]

This question asks for the amount of cashed-in equity received by the institution and the value of current equity holdings. It is not intended to capture the proceeds of universities' capital investments in companies, or general investments in the share market. Start-up companies are captured elsewhere in the survey. Value, in some cases, may be difficult to determine. The following guidelines are given: Value of all equity holdings refers to equity that is related to licensing/intellectual property assignment activity of the institution. If your institution holds equity in a publicly-traded/listed company, use the market price of your institution's holdings on the closing day of the period for which you are reporting. If your institution holds equity in a private company use the price established in the most recent transaction as the fair market price. For example, if you formed a company with an investor in 1998 and they put in $3 million for 60 per cent of the company and there have been no more investments since, then your value for all three years (1998-2000) will be $2 million (i.e. the institution's 40 per cent share value). If there have been no transactions, treat value as 0.

Non-CRC Institutions who have indicated participation in a number of CRCs in Q 6.d will see automatically generated rows for those respective CRCs previously indicated, to provide additional data.

Question 11: This question asks for annual data for INVENTION DISCLOSURES, Australian and US PATENTS ISSUED, and TOTAL and NEW Australian and US PATENT APPLICATIONS FILED. Of the TOTAL PATENT APPLICATIONS FILED in YEAR 2001 and 2002, it asks for the number of applications filed that were NEW AUSTRALIAN and US PATENT APPLICATIONS FILED in that year. See related definitions for TOTAL PATENT APPLICATIONS FILED and NEW PATENT APPLICATIONS FILED (a subset of TOTAL) to respond to this portion of the question. Include Plant Breeder Rights.

Question 12: This question asks for information for START-UP COMPANIES in YEAR 2001 and 2002. Questions 12.a and 12.b refer to START-UP COMPANIES formed in YEAR 2001 and 2002 respectively. Questions 12.c, 12.d, and 12.e refer to the total number of START-UP COMPANIES operating at the end of YEAR 2001 and 2002.

The first part of this question, 12.a, has two components. The first is self explanatory in that it asks for the number of START-UP COMPANIES formed during the reporting period. Indication of any number other than zero will generate a new field 12.f (i.e. hidden when the number is zero)

which asks for specific information relating to those START-UP COMPANIES. The second part, 12.b, asks for the number of START-UP COMPANIES initiated in YEAR 2001 and 2002 that have their primary place of business operating in Australia.

Question 12.c asks how many START-UP COMPANIES in total, including those reported in YEAR 2001 and 2002 were OPERATIONAL as of the last day of the surveyed fiscal year. Question 12.d asks how many START-UP COMPANIES became non-OPERATIONAL in Year 2001 and 2002. When responding to 12.c and 12.d, it may be useful to ask yourself if the LICENCE/OPTION/ASSIGNMENT with the START-UP is in force. (See also definition, OPERATIONAL.) Finally, question 12.e asks in how many of your OPERATIONAL START-UP companies does your institution or your institution's commercialisation company hold EQUITY.

Question 13: Question 13 requests LICENSED/ASSIGNED TECHNOLOGIES made AVAILABLE in Year 2001 and 2002 and will be used as sample data to describe benefits derived in the Survey year. To answer this question, review your ACTIVE LICENCES through Year 2001 and 2002 (6.a.3) and determine the LICENSED/ASSIGNED TECHNOLOGIES that became AVAILABLE in Year 2001 and 2002. (See related definitions for LICENSED TECHNOLOGIES and AVAILABLE.) Include CRCs if CRC patents with your inventors were filed through your institution.

Question 14: This question asks for product sales-related success stories. To consider your response, it might be useful to review the product stories published in the AUTM FY 2001 Survey Summary Reports, and the product stories highlighted under product stories – available at <http://www.autm.net>. It is important that the reporting of the numbers be combined with a sharing of the benefits of licensed technologies. The additional effort to respond to question 14 is recognized and appreciated. As an alternative to filling in the boxes, information can be submitted by attaching additional documentation to an email, or posting to the addresses provided.

5. DEFINITIONS:

0.5 COMMERCIALISATION FTE: see FTE – 0.5 COMMERCIALISATION (ref Question 3.b and 4)

ACTIVE LICENCES/OPTIONS/ASSIGNMENTS (LOAs): See LICENCES/OPTIONS/ASSIGNMENTS (LOAs) – ACTIVE. (ref Question 6)

AVAILABLE: LICENSED TECHNOLOGIES (see definition) that are sold as a product to the public or are placed into commercial use by a company, for example, as part of a manufacturing process. (ref Question 13.) A LICENSED TECHNOLOGY is considered AVAILABLE in Year 2001 and 2002 if the technology was placed into use in that year, i.e., evidenced by royalties generated for the first time or licensee diligence reporting. (ref Question 13)

CASHED-IN EQUITY: See EQUITY – CASHED IN (ref Question 8.b.2)

COMMERCIALISATION ACTIVITIES: COMMERCIALISATION ACTIVITIES include those activities associated with the identification, documentation, evaluation, protection, marketing, and licensing of technology (including trademarks but not university's insignia) and intellectual property management, in general. It encompasses activities such as assisting with the negotiation of research agreements, Material Transfer Agreements (MTAs), reporting of inventions to sponsors, and all other duties performed by the office (ref Questions 3.b and 4).

COMMERCIALISATION COMPANY: A company wholly-owned by an institution that undertakes commercialisation activities for the institution. (ref Question 4)

COMMERCIALISATION FTE: See FTE – COMMERCIALISATION. (ref Question 3.b and 4)

COMMERCIALISATION OFFICE: The office(s) that manages and performs the COMMERCIALISATION ACTIVITIES. (ref Question 4)

EQUITY: For the purposes of this Survey, EQUITY is defined as an institution (or its COMMERCIALISATION COMPANY) acquiring an ownership interest in a company (e.g. stock and rights to receiving stock). (ref Questions 6.e and 10)

EQUITY – CASHED IN: This includes the amount received from cashing in EQUITY holdings, resulting in a cash transfer to the institution (or its commercialisation company). The amount reported should be reduced by the cost basis, if any, on which the EQUITY was acquired. Excluded from this amount is any type of analysis or process whereby a value for the EQUITY holdings is determined but a cash transaction does not take place through the sale of these holdings. (ref Question 8.b.2)

EXCLUSIVE LICENCE: See LICENCE – EXCLUSIVE (ref Question 6.g)

FTE: Full time equivalent (staff). See also FTE – COMMERCIALISATION, FTE – 0.5 COMMERCIALISATION and FTE – OTHER. (ref Questions 3.b and 4)

FTE – 0.5 COMMERCIALISATION: 0.5 COMMERCIALISATION FTE means a position with duties included as support of COMMERCIALISATION ACTIVITIES at least 50 per cent of the time. This person may or may not have been located in a formally established COMMERCIALISATION OFFICE at that time. (ref Question 3b and 4.)

FTE – COMMERCIALISATION: Person(s) employed in the institution whose duties are specifically involved with COMMERCIALISATION ACTIVITIES, such as licensing and patenting processes in either full or fractional FTE allocation. Licensing examples include licensee solicitation, technology valuation, marketing of technology, licence agreement drafting and negotiation, and start-up activity efforts. (ref Questions 3.b and 4.)

FTE – OTHER: Person(s) employed in either full or fractional FTEs whose duties and responsibilities are to provide professional, administrative, or staff support of COMMERCIALISATION ACTIVITIES that are not otherwise included in COMMERCIALISATION FTE. Such duties might include management, compliance reporting, licence maintenance, negotiation of research agreements, contract management, accounting, MTA activity, and general office activity. General secretarial/ administrative assistance may also be included in this category. (ref Question 4)

INVENTION DISCLOSURES: INVENTION DISCLOSURES include the number of disclosures, no matter how comprehensive, that are made in the year requested and are counted by the institution. (ref Question 11)

LARGE COMPANIES: Companies that had more than 200 employees at the time the Licence/Option/Assignment was signed. (ref Question 6.g)

LEGAL FEES EXPENDITURES: See PATENT/LEGAL FEES EXPENDITURES.

LEGAL FEES REIMBURSEMENTS: See PATENT/LEGAL FEES REIMBURSEMENTS.

LICENCE – EXCLUSIVE: The assignment of a licence as exclusive or non-exclusive should adhere to the terms of the licence agreement. If a licence is designated as exclusive in the licence agreement, it should be assigned to exclusive licences under this Survey, including licences that are designated as exclusive by field of use, territory, or otherwise. (ref Question 6.g)

LICENCE – NON-EXCLUSIVE: The assignment of a licence as exclusive or non-exclusive should adhere to the terms of the licence agreement. If a licence is designated as non-exclusive in the licence agreement, it should be assigned to non-exclusive licences under this Survey. (ref Question 6.g)

LICENCES/OPTIONS/ASSIGNMENT AGREEMENTS (LOAs): A LICENCE AGREEMENT formalises the transfer of technology between two parties, where the owner of the technology (licensor) permits the other party (licensee) to share the rights to use the technology. An OPTION AGREEMENT grants the potential licensee a time period during which it may evaluate the technology and negotiate the terms of a LICENCE AGREEMENT. An OPTION AGREEMENT is not constituted by an Option clause in a research agreement that grants rights to future inventions, until an actual

invention has occurred that is subject to that Option (ref Questions 6 and 8). An ASSIGNMENT AGREEMENT conveys all right, title and interest in and to the licensed subject matter to the named assignee.

Please note: This includes only LOAs negotiated on full commercial terms, granting access to institutional intellectual property (patented or otherwise) in return for royalties or licence fees. Exclude research contracts or agreements where a licence is granted to a third party for the use of background intellectual property for research purposes and/or where the agreement specifies that the third party has an option to negotiate rights to commercialise intellectual property developed as a consequence of the research program undertaken.

LICENCES/OPTIONS/ASSIGNMENTS (LOAs) – ACTIVE: The cumulative number of LOA over all years that had not terminated by the end of the Survey's reporting year. (ref Question 6)

LICENCES/OPTIONS/ASSIGNMENTS (LOAs) – EXECUTED: Count the number of LICENCE, OPTION or ASSIGNMENT AGREEMENTS that were executed in the year indicated for all technologies. Each agreement, exclusive or non-exclusive, should be counted separately. Licences/ assignments to software or biological material end-users of $1,000 or more may be counted per licence, or as one licence, or one-each for each major software or biological material product (at manager's discretion) if the total number of end-user licences would unreasonably skew the institution's data. Licences/assignments for technology protected under or plant breeder's rights may be counted in a similar manner to software or biological material products as described above, at manager's discretion. Material Transfer Agreements are not to be counted as Licences/Options/ Assignments in this Survey. (ref Questions 6 and 8)

LICENCE/OPTION/ASSIGNMENTS (LOAs) EXECUTED WITH EQUITY: The number of LOAs that were executed in the year surveyed that included EQUITY, where EQUITY is defined as an institution acquiring an ownership interest in a company. (ref Question 6.a – 6.e and 12.e)

LICENCE/OPTION/ASSIGNMENTS (LOAs) YIELDING LICENCE INCOME: The number of LOAs that generated LICENCE/OPTION/ASSIGNMENT INCOME RECEIVED in the year requested. (ref Question 8.a)

LICENCES/OPTIONS/ASSIGNMENTS (LOAs) YIELDING RUNNING ROYALTIES: The number of LOA that generated RUNNING ROYALTIES in the year requested. (ref Question 8.b.1 and 8.b.4)

LICENCE/OPTION/ASSIGNMENT (LOA) INCOME PAID TO OTHER INSTITUTIONS: LICENCE/OPTION/ ASSIGNMENT INCOME PAID TO OTHER INSTITUTIONS is a subset of LICENCE INCOME RECEIVED and should not be subtracted from the total. This number will be used to better define the double-count of LICENCE INCOME reported under this Survey. It includes the amounts paid to other institutions under inter-institutional agreements. (ref Question 8.a.3)

LICENCE/OPTION/ASSIGNMENT (LOA) INCOME RECEIVED: LICENCE/OPTION/ASSIGNMENT INCOME RECEIVED includes the gross amount (before deduction of service fees, if any) of: licence issue fees, payments under options, annual minimums, running royalties, termination payments, the amount of equity received when cashed-in, and software and biological material end-user licence fees equal to $1,000 or more, but not research funding, patent expense reimbursement, a valuation of equity not cashed-in, software and biological material end-user licence fees less than $1,000, or trademark licensing royalties from university insignia. Licence/Option/Assignment Income also does not include income received in support of the cost to make and transfer materials under Material Transfer Agreements. (ref Questions 8.a and 8.b)

LICENSED/ASSIGNED TECHNOLOGIES: Refers to licensed or assigned technologies that became a product that was sold either to the public or to industry. It also refers to a licensed or assigned technology that is a process that was put into commercial use as opposed to developmental use by a company. A licensed or assigned technology may be considered AVAILABLE if it is bundled with other technologies when made available to the end-user. (ref Question 13)

MEDIUM COMPANIES: Companies that had 20–199 employees at the time the licence/option/assignment was signed. (ref Question 6.g)

NEW AUSTRALIAN and US PATENT APPLICATIONS FILED: NEW AUSTRALIAN or US PATENT APPLICATIONS FILED is a subset of TOTAL PATENT APPLICATIONS FILED. It does not include continuations, divisionals, or reissues, and typically does not include CIPs. A provisional application filed in Year 2001 and 2002 may be counted as new. If a provisional application is converted in Year 2001 and/or 2002 to a regular application, then that corresponding regular application filed in Year 2001 and/or 2002 should not be counted as new. (ref Question 11)

NON-EXCLUSIVE LICENCE: See LICENCE – NON-EXCLUSIVE. (ref Question 6.g)

OPERATIONAL: A company that possesses sufficient financial resources and expends these resources to make progress toward stated business goals. The company must also be diligent in its efforts to achieve these goals. (ref Questions 12.b, 12.c, and 12.e)

OTHER FTE: See FTE – OTHER. (ref Question 4)

PATENT APPLICATIONS FILED – TOTAL: TOTAL AUSTRALIAN and US PATENT APPLICATIONS FILED includes any filing made during the year 2001 and 2002, including provisional applications, provisional applications that are converted to regular applications, new filings, and if applicable Australia or the US, CIPs, continuations, divisionals, reissues, and plant patents. Applications for certificates of plant variety protection may also be included. (ref Question 11)

PATENT/LEGAL FEES EXPENDITURES: PATENT/LEGAL FEES EXPENDITURES include the amount spent by an institution in external legal fees for patents and/or copyrights. These costs include patent and copyright prosecution, maintenance, and interference costs, as well as minor litigation expenses that are included in everyday office expenditures (an example of a minor litigation expense might be the cost of an initial letter to a potential infringer written by counsel). Excluded from these fees is significant litigation expense, e.g. any individual litigation expense that exceeds 5 per cent of total LEGAL FEES EXPENDITURES. They also do not include direct payment of any of these costs by licensees. (ref Question 9)

PATENT/LEGAL FEES REIMBURSEMENTS: PATENT/LEGAL FEES REIMBURSEMENTS include the amount reimbursed by licensees to the institution for LEGAL FEES EXPENDITURES (see definition for PATENT/LEGAL FEES EXPENDITURES). (ref Question 9)

PATENTS ISSUED – US and AUSTRALIAN: includes the number of Australian and US patents issued or reissued to your institution in the year requested. Plant breeder's rights may also be included. (ref Question 11)

PROGRAM START DATE: PROGRAM START DATE refers to the year in which at least one half-time (0.5 FTE) professional was devoted to COMMERCIALISATION ACTIVITIES. (ref Question 3)

RESEARCH EXPENDITURES – FEDERAL AND STATE GOVT. SOURCES: FEDERAL GOVT. SOURCES include expenditures made in YEAR 2002 by the institution in support of its research activities that are funded respectively by the federal or state government. RESEARCH EXPENDITURES are not required in the 2001 form. (ref Question 5)

RESEARCH EXPENDITURES – INDUSTRIAL SOURCES: INDUSTRIAL SOURCES include expenditures made in YEAR 2002 by the institution in support of its research activities that are funded by for-profit corporations, but not expenditures supported by other sources such as foundations and other nonprofit organizations. (ref Question 5)

RESEARCH EXPENDITURES – TOTAL: TOTAL RESEARCH EXPENDITURES include expenditures made by the institution in Year 2002 in support of its research activities that are funded by all sources including the federal government, local government, industry, foundations, and other nonprofit organizations. Please note that figures for TOTAL RESEARCH EXPENDITURES is not required for the Year 2001.(See Question 5.)

RESEARCH FUNDING: RESEARCH FUNDING includes the total amount of research support committed to your institution in YEAR 2001 and 2002 (even if the funds are to be spent over several years) that was related to LICENCE/OPTION/ASSIGNMENT AGREEMENTS executed in the Survey period. RESEARCH FUNDING also includes the total amount of research support committed to your institution in YEAR 2001 and 2002 (even if the funds are to be spent over several years) that was related to LICENCE/OPTION/ASSIGNMENT AGREEMENTS signed in a prior year for which the related RESEARCH FUNDING was not previously reported, e.g., RESEARCH FUNDING committed as a result of a renewal of a research agreement that is related to a LICENCE/OPTION/ASSIGNMENT AGREEMENT signed in a prior year. (ref Question 7)

RUNNING ROYALTIES: For the purposes of this Survey, RUNNING ROYALTIES are defined as royalties earned on the sale of products. Excluded from this number are licence issue fees, payments under options, termination payments, and the amount of annual minimums not supported by sales. Also excluded from this amount is CASHED-IN EQUITY, which should be reported separately. (ref Question 8.b.1)

SMALL COMPANIES: Companies that had 1–19 employees at the time the Licence/Option/Assignment was signed, but, for the purposes of this Survey, not including START-UP COMPANIES initiated by your institution. (ref Questions 6.g)

START-UP COMPANIES: As used in this Survey, START-UP COMPANIES are companies or traders as persons engaged in businesses that were dependent upon licensing or assignment of the institution's technology for initiation. If a technology was licensed to an existing start-up company, but not to a START-UP COMPANY (as defined here), this company should be counted as a SMALL COMPANY when responding to Question 6.c, as opposed to a START-UP COMPANY. START-UP COMPANIES, as used in this Survey, will continue to refer only to those companies that were dependent upon your institution's technology for initiation. (ref Questions 6.g and 12)

TOTAL RESEARCH EXPENDITURES: See RESEARCH EXPENDITURES – TOTAL. (ref Question 5)

TOTAL PATENT APPLICATIONS FILED: See PATENT APPLICATIONS FILED – TOTAL (ref Question 11)

US and AUSTRALIAN PATENTS ISSUED: See PATENTS ISSUED – US and AUSTRALIAN (ref Question 11)

Appendix 4: Data tables

Tables for 2001

Tables for 2002

Time series tables – for the 45 institutions that responded for years 2000, 2001 and 2002

Tables for 2001

Table A1. Commercialisation Staff (Full-time Equivalent) for Year 2001 (Ranked by Commercialisation Staff)

	Commercialisation Staff (FTE)	Other Staff (FTE) Supporting Commercialisation Activities	Staff (FTE) Employed in a Commercialisation Office	Staff (FTE) Employed in a Commercialisation Company
University				
The University of New England	31	6	2	35
The University of New South Wales	12	4	0	12
The University of Melbourne	9	3	5	7
The University of Queensland	9	3	0	12
Monash University	8	4	0	6
The University of Sydney	7	3	10	0
The University of Adelaide	5	2	0	7
The Flinders University of South Australia	4	2	0	5
Royal Melbourne Institute of Technology	4	1	2	0
University of South Australia	3	4	7	0
Queensland University of Technology	2	10	4	0
The Australian National University	2	2	0	4
Griffith University	2	1	0	0
The University of Newcastle	2	1	0	2
University of Technology, Sydney	2	1	3	0
Swinburne University of Technology	2	0	2	0
Charles Darwin University	1	2	0	0
Charles Sturt University	1	2	0	0
La Trobe University	1	2	2	0
Murdoch University	1	1	1	0
The University of Western Australia	1	1	1	1
Deakin University	1	0	0	0
James Cook University	1	0	1	0
University of Wollongong	1	0	0	0
Victoria University of Technology	1	0	1	0
Southern Cross University	0	1	0	0
Australian Catholic University	0	0	0	0
Central Queensland University	0	0	0	0
Edith Cowan University	0	0	0	0
The University of Notre Dame Australia	0	0	0	0
University of Ballarat	0	0	0	0
University of Canberra	0	0	0	0
University of Southern Queensland	0	0	0	0
University of Tasmania	0	0	0	0
University of the Sunshine Coast	0	0	0	0
TOTAL UNIVERSITIES: 35	**113**	**56**	**41**	**91**
Medical Research Institute				
Howard Florey Institute	3	6	0	0
Austin Research Institute	3	1	0	4
Walter and Eliza Hall Institute of Medical Research	2	1	3	0
Royal North Shore Hospital	2	0	0	1
Centenary Institute of Cancer Medicine & Cell Biology	1	0	0	0
Garvan Insitute of Medical Research	1	0	1	0
Ludwig Institute for Cancer Research	1	0	1	0
Macfarlane Burnet Institute for Medical Research and Public Health	1	0	0	0
Prince Henry's Institute of Medical Research	1	0	1	0
Genomic Disorders Research Centre	0	12	0	0
Murdoch Childrens Research Institute	0	1	0	0
Telethon Institute for Child Health Research	0	1	0	0
Baker Heart Research Institute	0	0	0	0
Brain Research Institute	0	0	0	0
Child Health Research Institute	0	0	0	0
Fremantle Heart Institute	0	0	0	0
Institute of Dental Research	0	0	0	0
Melbourne Health	0	0	0	0
Mental Health Research Institute	0	0	0	0
Menzies School of Health Research	0	0	0	0
National Heart Foundation of Australia	0	0	0	0
National Stroke Research Institute	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0

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Table A1. continued

	Commercialisation Staff (FTE)	Other Staff (FTE) Supporting Commercialisation Activities	Staff (FTE) Employed in a Commercialisation Office	Staff (FTE) Employed in a Commercialisation Company
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0	0	0
NSW State Cancer Council	0	0	0	0
Peter Mac Callum Cancer Institute	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0
St Vincent's Institute of Medical Research	0	0	0	0
The Heart Research Institute	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**15**	**22**	**6**	**5**
CSIRO	**107**	**46**	**153**	**0**
Cooperative Research Centre				
Eye Research and Technology	13	2	1	0
Australian Photonics	4	8	0	12
Australian Telecommunications	2	2	1	0
Bioproducts	2	2	0	1
DSTC Pty Ltd	2	0	2	0
Clean Power from Lignite	1	1	0	0
Landscape Environments & Mineral Exploration	1	1	0	0
Sustainable Tourism	1	1	1	0
Cast Metals Manufacturing	1	0	1	0
Catchment Hydrology	1	0	0	0
Coal in Sustainable Development	1	0	0	0
Discovery of Genes for Common Human Diseases	1	0	1	0
Innovative Wood Manufacturing	1	0	0	1
MicroTechnology	1	0	1	0
Molecular Plant Breeding	1	0	1	0
Polymers	1	0	1	0
Railway Engineering and Technologies	1	0	1	0
Tropical Plant Protection	1	0	1	0
Asthma Ltd	0	0	0	0
Australian Cotton	0	0	0	0
Australian Petroleum	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0
Australian Sheep Industry	0	0	0	0
Capital Markets CRC Limited	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0
Construction Innovation	0	0	0	0
Freshwater Ecology	0	0	0	0
Functional Communication Surfaces	0	0	0	0
Innovative Dairy Products	0	0	0	0
Interaction Design	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0
Smart Internet Technology	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0
Sustainable Production Forestry	0	0	0	0
Sustainable Rice Production	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0
Tropical Savannas	0	0	0	0
Vaccine Technology	0	0	0	0
Value Added Wheat	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**36**	**17**	**12**	**14**
Other Publicly Funded Research Agencies				
Defence Science and Technology Organisation (DSTO)	2	0	0	0
Australian Institute of Marine Science (AIMS)	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**2**	**0**	**0**	**0**
TOTAL ALL RESPONDENTS: 113	**273**	**141**	**212**	**110**

Table A2. Research Expenditure for Year 2001

2001 Research expenditure data were not collected from survey respondents.

Table A3. Invention Disclosures for Year 2001 (Ranked by Invention Disclosures)

	Invention Disclosures
University	
The University of Sydney	104
The University of Queensland	85
The University of New South Wales	76
University of South Australia	59
Monash University	43
The University of Adelaide	30
University of Wollongong	25
Swinburne University of Technology	20
The Flinders Unviersity of South Australia	18
The University of Western Australia	18
The Australian National University	14
Queensland University of Technology	12
Royal Melbourne Institute of Technology	10
The University of Newcastle	8
The University of Melbourne	7
University of Technology, Sydney	7
University of Tasmania	5
Charles Darwin University	3
Griffith University	3
La Trobe University	3
James Cook University	2
Southern Cross University	2
The University of New England	2
Victoria University of Technology	2
Central Queensland University	1
Charles Sturt University	1
Australian Catholic University	0
Deakin University	0
Edith Cowan University	0
Murdoch University	0
The University of Notre Dame Australia	0
University of Ballarat	0
University of Canberra	0
University of Southern Queensland	0
University of the Sunshine Coast	0
TOTAL UNIVERSITIES: 35	**560**
Medical Research Institute	
Ludwig Institute for Cancer Research	70
Garvan Institute of Medical Research	25
Walter and Eliza Hall Institute of Medical Research	11
Peter Mac Callum Cancer Institute	7
Austin Research Institute	4
Howard Florey Institute	3
Royal North Shore Hospital	3
Baker Heart Research Institute	2
Victor Chang Cardiac Research Institute	2
Macfarlane Burnet Institute for Medical Research and Public Health	1
Telethon Institute for Child Health Research	1
Brain Research Institute	0
Centenary Institute of Cancer Medicine & Cell Biology	0
Child Health Research Institute	0
Fremantle Heart Institute	0
Genomic Disorders Research Centre	0
Institute of Dental Research	0
Melbourne Health	0
Mental Health Research Institute	0
Menzies School of Health Research	0
Murdoch Childrens Research Institute	0
National Heart Foundation of Australia	0

continued over

Table A3. continued

	Invention Disclosures
National Stroke Research Institute	0
National Vision Research Institute of Australia	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0
NSW State Cancer Council	0
Prince Henry's Institute of Medical Research	0
Prince of Wales Medical Research Institute	0
Royal Brisbane & Women's Hospital Foundation	0
St Vincent's Institute of Medical Research	0
The Heart Research Institute	0
Turning Point Alcohol and Drug Centre	0
Victorian Breast Cancer Research Consortium	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**129**
CSIRO	**34**
Cooperative Research Centre	
MicroTechnology	30
Eye Research and Technology	5
Asthma Ltd	1
Innovative Wood Manufacturing	1
Molecular Plant Breeding	1
Smart Internet Technology	1
Australian Cotton	0
Australian Petroleum	0
Australian Photonics	0
Australian Poultry Pty Ltd	0
Australian Sheep Industry	0
Australian Telecommunications	0
Bioproducts	0
Capital Markets CRC Limited	0
Cast Metals Manufacturing	0
Catchment Hydrology	0
Chronic Inflammatory Diseases	0
Clean Power from Lignite	0
Coal in Sustainable Development	0
Coastal Zone, Estuary and Waterway Management	0
Construction Innovation	0
Discovery of Genes for Common Human Diseases	0
DSTC Pty Ltd	0
Freshwater Ecology	0
Functional Communication Surfaces	0
Hydrometallurgy	0
Innovative Dairy Products	0
Interaction Design	0
Landscape Environments & Mineral Exploration	0
Plant-based Management of Dryland Salinity	0
Polymers	0
Railway Engineering and Technologies	0
Sugar Industry Innovation through Biotechnology	0
Sustainable Aquaculture of Finfish	0
Sustainable Production Forestry	0
Sustainable Rice Production	0
Sustainable Tourism	0
Tropical Plant Protection	0
Tropical Rainforest Ecology and Management	0
Tropical Savannas	0
Vaccine Technology	0
Value Added Wheat	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**39**
Other Publicly Funded Research Agencies	
Defence Science and Technology Organisation (DSTO)	15
Australian Nuclear Science and Technology Organisation (ANSTO)	8
Australian Institute of Marine Science (AIMS)	2
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**25**
TOTAL ALL RESPONDENTS: 113	**787**

Table A4. Patent Applications Filed in Australia and the US for Year 2001 (Ranked by Total Australian and US Patent Applications Filed)

	Total Australian and US Patent Applications Filed (New and Continuations)	New Australian Patent Applications Filed	New US Patent Applications Filed	PCT Applications Filed
University				
The University of New South Wales	62	44	0	18
The University of Queensland	52	27	9	9
The University of Sydney	49	30	5	14
Monash University	48	27	6	15
The University of Melbourne	43	18	1	11
The Australian National University	22	13	9	15
Queensland University of Technology	21	15	3	3
The University of Adelaide	16	13	3	3
The University of Newcastle	12	4	4	4
The University of Western Australia	11	9	0	2
Swinburne University of Technology	11	4	4	2
University of Technology, Sydney	10	1	0	2
University of Wollongong	9	8	1	2
Royal Melbourne Institute of Technology	7	5	1	0
The Flinders University of South Australia	5	1	2	2
James Cook University	5	1	0	2
Griffith University	3	3	0	0
University of Tasmania	3	2	0	0
La Trobe University	3	1	0	2
Central Queensland University	2	2	0	0
Southern Cross University	2	2	0	0
The University of New England	2	2	0	0
Victoria University of Technology	2	2	0	2
Charles Sturt University	1	1	0	1
University of South Australia	1	1	0	4
Australian Catholic University	0	0	0	0
Charles Darwin University	0	0	0	0
Deakin University	0	0	0	0
Edith Cowan University	0	0	0	0
Murdoch University	0	0	0	0
The University of Notre Dame Australia	0	0	0	0
University of Ballarat	0	0	0	0
University of Canberra	0	0	0	0
University of Southern Queensland	0	0	0	0
University of the Sunshine Coast	0	0	0	0
TOTAL UNIVERSITIES: 35	**402**	**236**	**48**	**113**
Medical Research Institute				
Ludwig Institute for Cancer Research	19	4	1	6
Garvan Institute of Medical Research	14	8	0	6
Walter and Eliza Hall Institute of Medical Research	11	11	0	4
Austin Research Institute	8	3	1	2
Peter Mac Callum Cancer Institute	6	6	0	0
Murdoch Childrens Research Institute	6	2	2	2
St Vincent's Institute of Medical Research	4	3	1	0
Telethon Institute for Child Health Research	4	0	1	2
Howard Florey Institute	3	3	3	1
Baker Heart Research Institute	2	2	0	0
Genomic Disorders Research Centre	2	2	0	0
Centenary Institute of Cancer Medicine & Cell Biology	1	1	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	1	1	0	0
Prince of Wales Medical Research Institute	1	1	0	0
Victor Chang Cardiac Research Institute	0	0	0	2
Brain Research Institute	0	0	0	0
Child Health Research Institute	0	0	0	0
Fremantle Heart Institute	0	0	0	0
Institute of Dental Research	0	0	0	0
Melbourne Health	0	0	0	0
Mental Health Research Institute	0	0	0	0
Menzies School of Health Research	0	0	0	0
National Heart Foundation of Australia	**0**	**0**	**0**	**0**

continued over

Table A4. continued

	Total Australian and US Patent Applications Filed (New and Continuations)	New Australian Patent Applications Filed	New US Patent Applications Filed	PCT Applications Filed
National Stroke Research Institute	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0	0	0
NSW State Cancer Council	0	0	0	0
Prince Henry's Institute of Medical Research	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0
Royal North Shore Hospital	0	0	0	0
The Heart Research Institute	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 31	**82**	**47**	**9**	**25**
CSIRO	**188**	**107**	**8**	**69**
Cooperative Research Centre				
Cast Metals Manufacturing	6	6	0	3
Discovery of Genes for Common Human Diseases	4	3	1	3
Clean Power from Lignite	3	1	0	1
Molecular Plant Breeding	3	1	0	2
Eye Research and Technology	2	2	2	2
Bioproducts	2	2	0	1
DSTC Pty Ltd	2	2	0	0
MicroTechnology	2	2	0	0
Polymers	2	1	0	1
Sustainable Tourism	1	1	1	1
Asthma Ltd	1	1	0	0
Innovative Wood Manufacturing	1	1	0	0
Smart Internet Technology	1	1	0	0
Australian Telecommunications	0	1	0	0
Tropical Plant Protection	0	0	0	1
Australian Cotton	0	0	0	0
Australian Petroleum	0	0	0	0
Australian Photonics	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0
Australian Sheep Industry	0	0	0	0
Capital Markets CRC Limited	0	0	0	0
Catchment Hydrology	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0
Coal in Sustainable Development	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0
Construction Innovation	0	0	0	0
Freshwater Ecology	0	0	0	0
Functional Communication Surfaces	0	0	0	0
Innovative Dairy Products	0	0	0	0
Interaction Design	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0
Railway Engineering and Technologies	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0
Sustainable Production Forestry	0	0	0	0
Sustainable Rice Production	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0
Tropical Savannas	0	0	0	0
Vaccine Technology	0	0	0	0
Value Added Wheat	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**30**	**25**	**4**	**15**
Other Publicly Funded Research Agencies				
Defence Science and Technology Organisation (DSTO)	8	5	3	7
Australian Nuclear Science and Technology Organisation (ANSTO)	6	1	1	1
Australian Institute of Marine Science (AIMS)	2	2	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**16**	**8**	**4**	**8**
TOTAL ALL RESPONDENTS: 113	**718**	**423**	**73**	**230**

Table A5. Patents Issued Worldwide and Australian and US Patents Issued for Year 2001 (Ranked by Patents Issued Worldwide)

	Patents Issued Worldwide	Australian Patents Issued	US Patents Issued
University			
The University of Melbourne	37	11	0
The University of Queensland	18	2	8
The University of Sydney	15	8	6
The Australian National University	7	1	2
Queensland University of Technology	5	2	2
University of South Australia	5	1	2
Southern Cross University	2	2	0
The University of New England	2	2	0
The University of New South Wales	2	2	0
University of Technology, Sydney	2	0	0
Central Queensland University	1	1	0
Charles Sturt University	1	1	0
Royal Melbourne Institute of Technology	1	1	0
The University of Newcastle	1	1	0
Griffith University	1	0	1
The Flinders University of South Australia	1	0	1
Australian Catholic University	0	0	0
Charles Darwin University	0	0	0
Deakin University	0	0	0
Edith Cowan University	0	0	0
James Cook University	0	0	0
La Trobe University	0	0	0
Monash University	0	0	0
Murdoch University	0	0	0
Swinburne University of Technology	0	0	0
The University of Adelaide	0	0	0
The University of Notre Dame Australia	0	0	0
The University of Western Australia	0	0	0
University of Ballarat	0	0	0
University of Canberra	0	0	0
University of Southern Queensland	0	0	0
University of Tasmania	0	0	0
University of the Sunshine Coast	0	0	0
University of Wollongong	0	0	0
Victoria University of Technology	0	0	0
TOTAL UNIVERSITIES: 35	**101**	**35**	**22**
Medical Research Institute			
Ludwig Institute for Cancer Research	5	2	3
Garvan Institute of Medical Research	4	4	4
Walter and Eliza Hall Institute of Medical Research	3	3	0
Telethon Institute for Child Health Research	3	0	3
Genomic Disorders Research Centre	2	2	0
Murdoch Childrens Research Institute	2	1	1
Austin Research Institute	2	1	0
Howard Florey Institute	1	1	1
Centenary Institute of Cancer Medicine & Cell Biology	1	1	0
Baker Heart Research Institute	0	0	0
Brain Research Institute	0	0	0
Child Health Research Institute	0	0	0
Fremantle Heart Institute	0	0	0
Institute of Dental Research	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	0
Melbourne Health	0	0	0
Mental Health Research Institute	0	0	0
Menzies School of Health Research	0	0	0
National Heart Foundation of Australia	0	0	0
National Stroke Research Institute	0	0	0
National Vision Research Institute of Australia	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0	0
NSW State Cancer Council	0	0	0
Peter Mac Callum Cancer Institute	0	0	0

continued over

Table A5. continued

	Patents Issued Worldwide	Australian Patents Issued	US Patents Issued
Prince Henry's Institute of Medical Research	0	0	0
Prince of Wales Medical Research Institute	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0
Royal North Shore Hospital	0	0	0
St Vincent's Institute of Medical Research	0	0	0
The Heart Research Institute	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0
Victor Chang Cardiac Research Institute	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**23**	**15**	**12**
CSIRO	**150**	**37**	**32**
COOPERATIVE RESEARCH CENTRE			
Tropical Plant Protection	11	0	0
Clean Power from Lignite	3	1	1
DSTC Pty Ltd	2	2	0
MicroTechnology	2	2	0
Smart Internet Technology	1	1	0
Bioproducts	1	0	1
Polymers	1	0	1
Australian Telecommunications	0	6	8
Asthma Ltd	0	0	0
Australian Cotton	0	0	0
Australian Petroleum	0	0	0
Australian Photonics	0	0	0
Australian Poultry Pty Ltd	0	0	0
Australian Sheep Industry	0	0	0
Capital Markets CRC Limited	0	0	0
Cast Metals Manufacturing	0	0	0
Catchment Hydrology	0	0	0
Chronic Inflammatory Diseases	0	0	0
Coal in Sustainable Development	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0
Construction Innovation	0	0	0
Discovery of Genes for Common Human Diseases	0	0	0
Eye Research and Technology	0	0	0
Freshwater Ecology	0	0	0
Functional Communication Surfaces	0	0	0
Innovative Dairy Products	0	0	0
Innovative Wood Manufacturing	0	0	0
Interaction Design	0	0	0
Landscape Environments & Mineral Exploration	0	0	0
Molecular Plant Breeding	0	0	0
Plant-based Management of Dryland Salinity	0	0	0
Railway Engineering and Technologies	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0
Sustainable Aquaculture of Finfish	0	0	0
Sustainable Production Forestry	0	0	0
Sustainable Rice Production	0	0	0
Sustainable Tourism	0	0	0
Tropical Rainforest Ecology and Management	0	0	0
Tropical Savannas	0	0	0
Vaccine Technology	0	0	0
Value Added Wheat	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**21**	**12**	**11**
Other Publicly Funded Research Agencies			
Australian Nuclear Science and Technology Organisation (ANSTO)	4	1	2
Defence Science and Technology Organisation (DSTO)	2	1	0
Australian Institute of Marine Science (AIMS)	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**6**	**2**	**2**
TOTAL ALL RESPONDENTS: 113	**301**	**101**	**79**

Table A6. Legal Fees Expended and Reimbursed for Year 2001 (Ranked by Legal Fees Expended)

	Legal Fees Expended ($)	Legal Fees Reimbursed ($)
University		
The University of Queensland	1,703,314	626,799
The Australian National University	1,137,699	522,723
The University of Sydney	948,112	577,269
The University of New South Wales	798,000	386,000
The University of Melbourne	788,757	315,405
The University of Newcastle	246,892	156,155
The University of Adelaide	200,000	20,000
Monash University	185,000	0
James Cook University	145,008	0
The Flinders University of South Australia	142,675	20,723
Southern Cross University	100,000	100,000
Queensland University of Technology	94,209	0
Swinburne University of Technology	90,000	0
Griffith University	55,119	0
The University of Western Australia	43,863	8,721
Royal Melbourne Institute of Technology	37,866	0
University of Wollongong	23,500	8,000
La Trobe University	21,691	1,235
Victoria University of Technology	20,000	0
Central Queensland University	10,000	0
Murdoch University	10,000	0
The University of New England	10,000	0
University of Technology, Sydney	7,710	0
Charles Sturt University	5,000	0
University of Canberra	250	0
Australian Catholic University	0	0
Charles Darwin University	0	0
Deakin University	0	0
Edith Cowan University	0	0
The University of Notre Dame Australia	0	0
University of Ballarat	0	0
University of South Australia	0	0
University of Southern Queensland	0	0
University of Tasmania	0	0
University of the Sunshine Coast	0	0
TOTAL UNIVERSITIES: 35	**6,824,665**	**2,743,030**
Medical Research Institute		
Ludwig Institute for Cancer Research	333,093	94,080
Walter and Eliza Hall Institute of Medical Research	305,993	0
Howard Florey Institute	260,000	240,000
Austin Research Institute	225,000	120,000
Garvan Institute of Medical Research	150,000	45,000
Murdoch Childrens Research Institute	99,910	0
Royal North Shore Hospital	69,000	0
Telethon Institute for Child Health Research	57,000	0
Macfarlane Burnet Institute for Medical Research and Public Health	54,000	0
St Vincent's Institute of Medical Research	23,634	0
Peter Mac Callum Cancer Institute	22,000	0
Genomic Disorders Research Centre	20,194	0
Victor Chang Cardiac Research Institute	12,000	0
Baker Heart Research Institute	11,901	0
Prince Henry's Institute of Medical Research	10,500	0
Centenary Institute of Cancer Medicine & Cell Biology	6,757	0
Brain Research Institute	0	0
Child Health Research Institute	0	0
Fremantle Heart Institute	0	0
Institute of Dental Research	0	0
Melbourne Health	0	0
Mental Health Research Institute	0	0
Menzies School of Health Research	0	0
National Heart Foundation of Australia	0	0
National Stroke Research Institute	0	0
National Vision Research Institute of Australia	0	0

continued over

Table A6. continued

	Legal Fees Expended ($)	Legal Fees Reimbursed ($)
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0
NSW State Cancer Council	0	0
Prince of Wales Medical Research Institute	0	0
Royal Brisbane & Women's Hospital Foundation	0	0
The Heart Research Institute	0	0
Turning Point Alcohol and Drug Centre	0	0
Victorian Breast Cancer Research Consortium	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**1,660,982**	**499,080**
CSIRO	**4,979,396**	**979,492**
Cooperative Research Centre		
Eye Research and Technology	200,000	0
Tropical Plant Protection	93,015	39,403
Cast Metals Manufacturing	39,000	0
Polymers	36,000	21,000
Clean Power from Lignite	34,773	0
Bioproducts	30,000	1
Molecular Plant Breeding	30,000	0
Asthma Ltd	28,000	0
Australian Telecommunications	27,683	0
Innovative Wood Manufacturing	20,200	0
Value Added Wheat	10,000	5,000
Innovative Dairy Products	10,000	0
DSTC Pty Ltd	5,985	0
MicroTechnology	5,000	0
Sustainable Tourism	5,000	0
Australian Cotton	0	0
Australian Petroleum	0	0
Australian Photonics	0	0
Australian Poultry Pty Ltd	0	0
Australian Sheep Industry	0	0
Capital Markets CRC Limited	0	0
Catchment Hydrology	0	0
Chronic Inflammatory Diseases	0	0
Coal in Sustainable Development	0	0
Coastal Zone, Estuary and Waterway Management	0	0
Construction Innovation	0	0
Discovery of Genes for Common Human Diseases	0	0
Freshwater Ecology	0	0
Functional Communication Surfaces	0	0
Interaction Design	0	0
Landscape Environments & Mineral Exploration	0	0
Plant-based Management of Dryland Salinity	0	0
Railway Engineering and Technologies	0	0
Smart Internet Technology	0	0
Sugar Industry Innovation through Biotechnology	0	0
Sustainable Aquaculture of Finfish	0	0
Sustainable Production Forestry	0	0
Sustainable Rice Production	0	0
Tropical Rainforest Ecology and Management	0	0
Tropical Savannas	0	0
Vaccine Technology	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**574,656**	**65,404**
Other Publicly Funded Research Agencies		
Defence Science and Technology Organisation (DSTO)	224,303	25,000
Australian Institute of Marine Science (AIMS)	54,509	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**278,812**	**25,000**
TOTAL ALL RESPONDENTS: 113	**14,318,511**	**4,312,006**

Table A7. Licenses/Options/Assignments (LOAs) Executed: Exclusive and Non-Exclusive for Year 2001 (Ranked by LOAs Executed)

	LOAs Executed	LOAs Executed: Exclusive	LOAs Executed: Non-Exclusive
University			
The University of New South Wales	28	8	20
The University of Sydney	21	20	1
University of Wollongong	20	5	15
Southern Cross University	20	0	20
The University of Queensland	16	16	0
The University of Melbourne	15	15	0
Royal Melbourne Institute of Technology	11	11	0
University of Technology, Sydney	6	6	0
Monash University	5	5	0
Victoria University of Technology	5	5	0
The University of Western Australia	4	4	0
Queensland University of Technology	4	2	2
The Flinders University of South Australia	4	0	4
Charles Sturt University	3	3	0
Swinburne University of Technology	3	3	0
The University of Adelaide	3	3	0
The Australian National University	2	2	0
The University of New England	2	2	0
University of South Australia	2	2	0
Central Queensland University	1	1	0
Charles Darwin University	1	1	0
La Trobe University	1	1	0
The University of Newcastle	1	1	0
University of Tasmania	1	1	0
Australian Catholic University	0	0	0
Deakin University	0	0	0
Edith Cowan University	0	0	0
Griffith University	0	0	0
James Cook University	0	0	0
Murdoch University	0	0	0
The University of Notre Dame Australia	0	0	0
University of Ballarat	0	0	0
University of Canberra	0	0	0
University of Southern Queensland	0	0	0
University of the Sunshine Coast	0	0	0
TOTAL UNIVERSITIES: 35	**179**	**117**	**62**
Medical Research Institute			
Peter Mac Callum Cancer Institute	29	29	0
Garvan Institute of Medical Research	6	3	3
Walter and Eliza Hall Institute of Medical Research	4	4	0
Austin Research Institute	2	2	0
Howard Florey Institute	2	2	0
St Vincent's Institute of Medical Research	2	2	0
Telethon Institute for Child Health Research	1	1	0
Victor Chang Cardiac Research Institute	1	1	0
Ludwig Institute for Cancer Research	1	0	13
Murdoch Childrens Research Institute	0	1	0
Baker Heart Research Institute	0	0	0
Brain Research Institute	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	0	0	0
Child Health Research Institute	0	0	0
Fremantle Heart Institute	0	0	0
Genomic Disorders Research Centre	0	0	0
Institute of Dental Research	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	0
Melbourne Health	0	0	0
Mental Health Research Institute	0	0	0
Menzies School of Health Research	0	0	0
National Heart Foundation of Australia	0	0	0
National Stroke Research Institute	0	0	0
National Vision Research Institute of Australia	0	0	0

continued over

Table A7. continued

	LOAs Executed	LOAs Executed: Exclusive	LOAs Executed: Non-Exclusive
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0	0
NSW State Cancer Council	0	0	0
Prince Henry's Institute of Medical Research	0	0	0
Prince of Wales Medical Research Institute	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0
Royal North Shore Hospital	0	0	0
The Heart Research Institute	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**48**	**45**	**16**
CSIRO	**158**	**20**	**138**
Cooperative Research Centre			
DSTC Pty Ltd	9	0	9
Australian Photonics	6	0	6
Polymers	4	4	0
Sustainable Tourism	4	4	0
Value Added Wheat	2	2	0
Clean Power from Lignite	1	1	0
Tropical Plant Protection	1	1	0
Molecular Plant Breeding	1	0	1
Asthma Ltd	0	0	0
Australian Cotton	0	0	0
Australian Petroleum	0	0	0
Australian Poultry Pty Ltd	0	0	0
Australian Sheep Industry	0	0	0
Australian Telecommunications	0	0	0
Bioproducts	0	0	0
Capital Markets CRC Limited	0	0	0
Cast Metals Manufacturing	0	0	0
Catchment Hydrology	0	0	0
Chronic Inflammatory Diseases	0	0	0
Coal in Sustainable Development	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0
Construction Innovation	0	0	0
Discovery of Genes for Common Human Diseases	0	0	0
Eye Research and Technology	0	0	0
Freshwater Ecology	0	0	0
Functional Communication Surfaces	0	0	0
Innovative Dairy Products	0	0	0
Innovative Wood Manufacturing	0	0	0
Interaction Design	0	0	0
Landscape Environments & Mineral Exploration	0	0	0
MicroTechnology	0	0	0
Plant-based Management of Dryland Salinity	0	0	0
Railway Engineering and Technologies	0	0	0
Smart Internet Technology	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0
Sustainable Aquaculture of Finfish	0	0	0
Sustainable Production Forestry	0	0	0
Sustainable Rice Production	0	0	0
Tropical Rainforest Ecology and Management	0	0	0
Tropical Savannas	0	0	0
Vaccine Technology	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**28**	**12**	**16**
Other Publicly Funded Research Agencies			
Defence Science and Technology Organisation (DSTO)	7	0	7
Australian Institute of Marine Science (AIMS)	1	1	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**8**	**1**	**7**
TOTAL ALL RESPONDENTS: 113	**421**	**195**	**239**

Table A8. Licences/Options/Assignments (LOAs) Executed: To Start-up, Small, Medium and Large Companies for Year 2001 (Ranked by LOAs Executed)

	LOAs Executed	LOAs Executed: To Start-Up Companies	LOAs Executed: To Small Companies	LOAs Executed: To Medium Companies	LOAs Executed: To Large Companies
University					
The University of New South Wales	28	0	0	0	28
The University of Sydney	21	9	5	2	5
Southern Cross University	20	0	0	0	20
University of Wollongong	20	1	5	9	5
The University of Queensland	16	11	1	2	2
The University of Melbourne	15	3	7	0	5
Royal Melbourne Institute of Technology	11	0	4	2	5
University of Technology, Sydney	6	2	0	0	4
Monash University	5	0	4	1	0
Victoria University of Technology	5	2	2	0	1
Queensland University of Technology	4	1	0	2	1
The Flinders University of South Australia	4	0	0	4	0
The University of Western Australia	4	0	1	2	1
Charles Sturt University	3	0	0	1	2
Swinburne University of Technology	3	3	0	0	0
The University of Adelaide	3	1	0	2	0
The Australian National University	2	0	0	0	2
The University of New England	2	0	2	0	0
University of South Australia	2	1	0	0	1
Central Queensland University	1	1	0	0	0
Charles Darwin University	1	1	0	0	0
La Trobe University	1	0	1	0	0
The University of Newcastle	1	1	0	0	0
University of Tasmania	1	0	0	1	0
Australian Catholic University	0	0	0	0	0
Deakin University	0	0	0	0	0
Edith Cowan University	0	0	0	0	0
Griffith University	0	0	0	0	0
James Cook University	0	0	0	0	0
Murdoch University	0	0	0	0	0
The University of Notre Dame Australia	0	0	0	0	0
University of Ballarat	0	0	0	0	0
University of Canberra	0	0	0	0	0
University of Southern Queensland	0	0	0	0	0
University of the Sunshine Coast	0	0	0	0	0
TOTAL UNIVERSITIES: 35	**179**	**37**	**32**	**28**	**82**
Medical Research Institute					
Peter Mac Callum Cancer Institute	29	5	0	13	11
Garvan Institute of Medical Research	6	0	1	3	2
Walter and Eliza Hall Institute of Medical Research	4	3	0	0	1
Austin Research Institute	2	2	0	0	0
Howard Florey Institute	2	0	0	2	0
St Vincent's Institute of Medical Research	2	0	0	0	2
Ludwig Institute for Cancer Research	1	0	0	2	11
Telethon Institute for Child Health Research	1	0	0	0	1
Victor Chang Cardiac Research Institute	1	0	0	1	0
Murdoch Childrens Research Institute	0	0	1	0	0
Baker Heart Research Institute	0	0	0	0	0
Brain Research Institute	0	0	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	0	0	0	0	0
Child Health Research Institute	0	0	0	0	0
Fremantle Heart Institute	0	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0	0
Institute of Dental Research	0	0	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	0	0	0
Melbourne Health	0	0	0	0	0
Mental Health Research Institute	0	0	0	0	0
Menzies School of Health Research	0	0	0	0	0
National Heart Foundation of Australia	0	0	0	0	0
National Stroke Research Institute	0	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0	0

continued over

Table A8. continued

	LOAs Executed	LOAs Executed: To Start-Up Companies	LOAs Executed: To Small Companies	LOAs Executed: To Medium Companies	LOAs Executed: To Large Companies
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0	0	0	0
NSW State Cancer Council	0	0	0	0	0
Prince Henry's Institute of Medical Research	0	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0	0
Royal North Shore Hospital	0	0	0	0	0
The Heart Research Institute	0	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**48**	**10**	**2**	**21**	**28**
CSIRO	**158**	**4**	**30**	**26**	**98**
Cooperative Research Centre					
DSTC Pty Ltd	9	0	1	6	2
Australian Photonics	6	4	0	1	1
Polymers	4	0	0	0	4
Sustainable Tourism	4	4	0	0	0
Value Added Wheat	2	0	2	0	0
Clean Power from Lignite	1	1	0	0	0
Molecular Plant Breeding	1	0	0	0	1
Tropical Plant Protection	1	0	1	0	0
Asthma Ltd	0	0	0	0	0
Australian Cotton	0	0	0	0	0
Australian Petroleum	0	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0	0
Australian Sheep Industry	0	0	0	0	0
Australian Telecommunications	0	0	0	0	0
Bioproducts	0	0	0	0	0
Capital Markets CRC Limited	0	0	0	0	0
Cast Metals Manufacturing	0	0	0	0	0
Catchment Hydrology	0	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0	0
Coal in Sustainable Development	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0	0
Construction Innovation	0	0	0	0	0
Discovery of Genes for Common Human Diseases	0	0	0	0	0
Eye Research and Technology	0	0	0	0	0
Freshwater Ecology	0	0	0	0	0
Functional Communication Surfaces	0	0	0	0	0
Innovative Dairy Products	0	0	0	0	0
Innovative Wood Manufacturing	0	0	0	0	0
Interaction Design	0	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0	0
MicroTechnology	0	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0	0
Railway Engineering and Technologies	0	0	0	0	0
Smart Internet Technology	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0	0
Sustainable Production Forestry	0	0	0	0	0
Sustainable Rice Production	0	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0	0
Tropical Savannas	0	0	0	0	0
Vaccine Technology	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**28**	**9**	**4**	**7**	**8**
Other Publicly Funded Research Agencies					
Defence Science and Technology Organisation (DSTO)	7	0	3	4	0
Australian Institute of Marine Science (AIMS)	1	0	0	0	1
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**8**	**0**	**3**	**4**	**1**
TOTAL ALL RESPONDENTS: 113	**421**	**60**	**71**	**86**	**217**

Table A9. Licences/Options/Assignments (LOAs) Executed: Exclusive and Non-Exclusive; To Start-up, Small, Medium and Large Companies for Year 2001 (Ranked by LOAs Executed)

	LOAs Executed	LOAs Executed: Start-Up Companies	LOAs Executed Start-Up Companies: Exclusive	LOAs Executed Start-Up Companies: Non-Exclusive	LOAs Executed Small Companies	LOAs Executed Small Companies: Exclusive	LOAs Executed Small Companies: Non-Exlcusive	LOAs Executed Medium Companies	LOAs Executed Medium Companies: Exclusive	LOAs Executed Medium Companies: Non-Exclusive	LOAs Executed Large Companies	LOAs Executed Large Companies: Exclusive	LOAs Executed Large Companies: Non-Exclusive
University													
The University of New South Wales	28	0	0	0	0	0	0	0	0	0	28	8	20
The University of Sydney	21	9	9	0	5	5	0	2	2	0	5	4	1
Southern Cross University	20	0	0	0	0	0	0	0	0	0	20	0	20
University of Wollongong	20	1	1	0	5	2	3	9	1	8	5	1	4
The University of Queensland	16	11	11	0	1	1	0	2	2	0	2	2	0
The University of Melbourne	15	3	3	0	7	7	0	0	0	0	5	5	0
Royal Melbourne Institute of Technology	11	0	0	0	4	4	0	2	2	0	5	5	0
University of Technology, Sydney	6	2	2	0	0	0	0	0	0	0	4	4	0
Monash University	5	0	0	0	4	4	0	1	1	0	0	0	0
Victoria University of Technology	5	2	2	0	2	2	0	0	0	0	1	1	0
Queensland University of Technology	4	1	1	0	0	0	0	2	0	2	1	1	0
The Flinders University of South Australia	4	0	0	0	0	0	0	4	0	4	0	0	0
The University of Western Australia	4	0	0	0	1	1	0	2	2	0	1	1	0
Charles Sturt University	3	0	0	0	0	0	0	1	1	0	2	2	0
Swinburne University of Technology	3	3	3	0	0	0	0	0	0	0	0	0	0
The University of Adelaide	3	1	1	0	0	0	0	2	2	0	0	0	0
The Australian National University	2	0	0	0	0	0	0	0	0	0	2	2	0
The University of New England	2	0	0	0	2	2	0	0	0	0	0	0	0
University of South Australia	2	1	1	0	0	0	0	0	0	0	1	1	0
Central Queensland University	1	1	1	0	0	0	0	0	0	0	0	0	0
Charles Darwin University	1	1	1	0	0	0	0	0	0	0	0	0	0
La Trobe University	1	0	0	0	1	1	0	0	0	0	0	0	0
The University of Newcastle	1	1	1	0	0	0	0	0	0	0	0	0	0
University of Tasmania	1	0	0	0	0	0	0	1	1	0	0	0	0
Australian Catholic University	0	0	0	0	0	0	0	0	0	0	0	0	0
Deakin University	0	0	0	0	0	0	0	0	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0	0	0	0	0	0	0	0
Griffith University	0	0	0	0	0	0	0	0	0	0	0	0	0
James Cook University	0	0	0	0	0	0	0	0	0	0	0	0	0
Murdoch University	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Notre Dame Australia	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Ballarat	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table A9. continued

	LOAs Executed	LOAs Executed: Start-Up Companies	LOAs Executed Start-Up Companies: Exclusive	LOAs Executed Start-Up Companies: Non-Exclusive	LOAs Executed Small Companies	LOAs Executed Small Companies: Exclusive	LOAs Executed Small Companies: Non-Exlcusive	LOAs Executed Medium Companies	LOAs Executed Medium Companies: Exclusive	LOAs Executed Medium Companies: Non-Exclusive	LOAs Executed Large Companies	LOAs Executed Large Companies: Exclusive	LOAs Executed Large Companies: Non-Exclusive
University of Canberra	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Southern Queensland	0	0	0	0	0	0	0	0	0	0	0	0	0
University of the Sunshine Coast	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL UNIVERSITIES: 35	**179**	**37**	**37**	**0**	**32**	**29**	**3**	**28**	**14**	**14**	**82**	**37**	**45**
Medical Research Institute													
Peter Mac Callum Cancer Institute	29	5	5	0	0	0	0	13	13	0	11	11	0
Garvan Institute of Medical Research	6	0	0	0	1	0	1	3	1	2	2	2	0
Walter and Eliza Hall Institute of Medical Research	4	3	3	0	0	0	0	0	0	0	1	1	0
Austin Research Institute	2	2	2	0	0	0	0	0	0	0	0	0	0
Howard Florey Institute	2	0	0	0	0	0	0	2	2	0	0	0	0
St Vincent's Institute of Medical Research	2	0	0	0	0	0	0	0	0	0	2	2	0
Ludwig Institute for Cancer Research	1	0	0	0	0	0	0	2	0	2	11	0	11
Telethon Institute for Child Health Research	1	0	0	0	0	0	0	0	0	0	1	1	0
Victor Chang Cardiac Research Institute	1	0	0	0	0	0	0	1	1	0	0	0	0
Murdoch Childrens Research Institute	0	0	0	0	1	1	0	0	0	0	0	0	0
Baker Heart Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Brain Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	0	0	0	0	0	0	0	0	0	0	0	0	0
Child Health Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Fremantle Heart Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0	0	0	0	0	0	0	0	0	0
Institute of Dental Research	0	0	0	0	0	0	0	0	0	0	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	0	0	0	0	0	0	0	0	0	0	0
Melbourne Health	0	0	0	0	0	0	0	0	0	0	0	0	0
Mental Health Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Menzies School of Health Research	0	0	0	0	0	0	0	0	0	0	0	0	0
National Heart Foundation of Australia	0	0	0	0	0	0	0	0	0	0	0	0	0
National Stroke Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0	0	0	0	0	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0	0	0	0	0	0	0	0	0	0	0	0
NSW State Cancer Council	0	0	0	0	0	0	0	0	0	0	0	0	0
Prince Henry's Institute of Medical Research	0	0	0	0	0	0	0	0	0	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table A9. continued

	LOAs Executed	LOAs Executed: Start-Up Companies	LOAs Executed Start-Up Companies: Exclusive	LOAs Executed Start-Up Companies: Non-Exclusive	LOAs Executed Small Companies	LOAs Executed Small Companies: Exclusive	LOAs Executed Small Companies: Non-Exlcusive	LOAs Executed Medium Companies	LOAs Executed Medium Companies: Exclusive	LOAs Executed Medium Companies: Non-Exclusive	LOAs Executed Large Companies	LOAs Executed Large Companies: Exclusive	LOAs Executed Large Companies: Non-Exclusive
Royal Brisbane & Women's Hospital Foundation	0	0	0	0	0	0	0	0	0	0	0	0	0
Royal North Shore Hospital	0	0	0	0	0	0	0	0	0	0	0	0	0
The Heart Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0	0	0	0	0	0	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**48**	**10**	**10**	**0**	**2**	**1**	**1**	**21**	**17**	**4**	**28**	**17**	**11**
CSIRO	**158**	**4**	**4**	**0**	**30**	**7**	**23**	**26**	**4**	**22**	**98**	**5**	**93**
Cooperative Research Centre													
DSTC Pty Ltd	9	0	0	0	1	0	1	6	0	6	2	0	2
Australian Photonics	6	4	0	4	0	0	0	1	0	1	1	0	1
Polymers	4	0	0	0	0	0	0	0	0	0	4	4	0
Sustainable Tourism	4	4	4	0	0	0	0	0	0	0	0	0	0
Value Added Wheat	2	0	0	0	2	2	0	0	0	0	0	0	0
Clean Power from Lignite	1	1	1	0	0	0	0	0	0	0	0	0	0
Molecular Plant Breeding	1	0	0	0	0	0	0	0	0	0	1	0	1
Tropical Plant Protection	1	0	0	0	1	1	0	0	0	0	0	0	0
Asthma Ltd	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Cotton	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Petroleum	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Sheep Industry	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Telecommunications	0	0	0	0	0	0	0	0	0	0	0	0	0
Bioproducts	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital Markets CRC Limited	0	0	0	0	0	0	0	0	0	0	0	0	0
Cast Metals Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	0
Catchment Hydrology	0	0	0	0	0	0	0	0	0	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0	0	0	0	0	0	0	0	0	0
Coal in Sustainable Development	0	0	0	0	0	0	0	0	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction Innovation	0	0	0	0	0	0	0	0	0	0	0	0	0
Discovery of Genes for Common Human Diseases	0	0	0	0	0	0	0	0	0	0	0	0	0
Eye Research and Technology	0	0	0	0	0	0	0	0	0	0	0	0	0
Freshwater Ecology	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table A9. continued

	LOAs Executed	LOAs Executed: Start-Up Companies	LOAs Executed Start-Up Companies: Exclusive	LOAs Executed Start-Up Companies: Non-Exclusive	LOAs Executed Small Companies	LOAs Executed Small Companies: Exclusive	LOAs Executed Small Companies: Non-Exlcusive	LOAs Executed Medium Companies	LOAs Executed Medium Companies: Exclusive	LOAs Executed Medium Companies: Non-Exclusive	LOAs Executed Large Companies	LOAs Executed Large Companies: Exclusive	LOAs Executed Large Companies: Non-Exclusive
Functional Communication Surfaces	0	0	0	0	0	0	0	0	0	0	0	0	0
Innovative Dairy Products	0	0	0	0	0	0	0	0	0	0	0	0	0
Innovative Wood Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	0
Interaction Design	0	0	0	0	0	0	0	0	0	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0	0	0	0	0	0	0	0	0	0
MicroTechnology	0	0	0	0	0	0	0	0	0	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0	0	0	0	0	0	0	0	0	0
Railway Engineering and Technologies	0	0	0	0	0	0	0	0	0	0	0	0	0
Smart Internet Technology	0	0	0	0	0	0	0	0	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Production Forestry	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Rice Production	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Savannas	0	0	0	0	0	0	0	0	0	0	0	0	0
Vaccine Technology	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**28**	**9**	**5**	**4**	**4**	**3**	**1**	**7**	**0**	**7**	**8**	**4**	**4**
Other Publicly Funded Research Agencies													
Defence Science and Technology Organisation (DSTO)	8	0	0	0	3	0	3	4	0	4	0	0	0
Australian Institute of Marine Science (AIMS)	1	0	0	0	0	0	0	0	0	0	1	1	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**9**	**0**	**0**	**0**	**3**	**0**	**3**	**4**	**0**	**4**	**1**	**1**	**0**
TOTAL ALL RESPONDENTS: 113	**421**	**60**	**56**	**4**	**71**	**40**	**31**	**86**	**35**	**51**	**217**	**64**	**153**

Table A10. Research Funding Related to Licences/Options/Assignments (LOAs) for Year 2001 (Ranked by Research Funding Related to LOAs)

	Research Funding Related to LOAs ($)
University	
The University of Melbourne	10,000,000
The Australian National University	6,611,576
The University of Queensland	5,760,500
The University of New South Wales	5,000,000
University of Wollongong	3,800,000
The University of Sydney	2,794,966
Monash University	2,500,000
The University of Western Australia	1,842,000
The University of Adelaide	1,700,000
Victoria University of Technology	1,230,000
The University of Newcastle	926,350
University of Canberra	500,000
Royal Melbourne Institute of Technology	480,333
Swinburne University of Technology	400,000
James Cook University	223,923
University of Technology, Sydney	144,181
La Trobe University	61,572
The Flinders University of South Australia	50,000
Central Queensland University	20,000
Australian Catholic University	0
Charles Darwin University	0
Charles Sturt University	0
Deakin University	0
Edith Cowan University	0
Griffith University	0
Murdoch University	0
Queensland University of Technology	0
Southern Cross University	0
The University of New England	0
The University of Notre Dame Australia	0
University of Ballarat	0
University of South Australia	0
University of Southern Queensland	0
University of Tasmania	0
University of the Sunshine Coast	0
TOTAL UNIVERSITIES: 35	**44,045,401**
Medical Research Institute	
Austin Research Institute	3,000,000
Peter Mac Callum Cancer Institute	2,912,000
Murdoch Childrens Research Institute	1,621,352
Walter and Eliza Hall Institute of Medical Research	1,199,365
Garvan Institute of Medical Research	800,000
Telethon Institute for Child Health Research	770,000
Howard Florey Institute	350,000
Macfarlane Burnet Institute for Medical Research and Public Health	250,000
Ludwig Institute for Cancer Research	170,000
Victor Chang Cardiac Research Institute	120,000
Melbourne Health	25,000
Baker Heart Research Institute	0
Brain Research Institute	0
Centenary Institute of Cancer Medicine & Cell Biology	0
Child Health Research Institute	0
Fremantle Heart Institute	0
Genomic Disorders Research Centre	0
Institute of Dental Research	0
Mental Health Research Institute	0
Menzies School of Health Research	0
National Heart Foundation of Australia	0
National Stroke Research Institute	0
National Vision Research Institute of Australia	0
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0
NSW State Cancer Council	0
Prince Henry's Institute of Medical Research	0

continued over

Table A10. continued

	Research Funding Related to LOAs ($)
Prince of Wales Medical Research Institute	0
Royal Brisbane & Women's Hospital Foundation	0
Royal North Shore Hospital	0
St Vincent's Institute of Medical Research	0
The Heart Research Institute	0
Turning Point Alcohol and Drug Centre	0
Victorian Breast Cancer Research Consortium	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**11,217,717**
CSIRO	**0**
Cooperative Research Centre	
Australian Photonics	1,500,000
Tropical Plant Protection	1,400,000
Discovery of Genes for Common Human Diseases	575,000
Sustainable Tourism	300,000
DSTC Pty Ltd	226,875
Molecular Plant Breeding	50,000
Asthma Ltd	0
Australian Cotton	0
Australian Petroleum	0
Australian Poultry Pty Ltd	0
Australian Sheep Industry	0
Australian Telecommunications	0
Bioproducts	0
Capital Markets CRC Limited	0
Cast Metals Manufacturing	0
Catchment Hydrology	0
Chronic Inflammatory Diseases	0
Clean Power from Lignite	0
Coal in Sustainable Development	0
Coastal Zone, Estuary and Waterway Management	0
Construction Innovation	0
Eye Research and Technology	0
Freshwater Ecology	0
Functional Communication Surfaces	0
Innovative Dairy Products	0
Innovative Wood Manufacturing	0
Interaction Design	0
Landscape Environments & Mineral Exploration	0
MicroTechnology	0
Plant-based Management of Dryland Salinity	0
Polymers	0
Railway Engineering and Technologies	0
Smart Internet Technology	0
Sugar Industry Innovation through Biotechnology	0
Sustainable Aquaculture of Finfish	0
Sustainable Production Forestry	0
Sustainable Rice Production	0
Tropical Rainforest Ecology and Management	0
Tropical Savannas	0
Vaccine Technology	0
Value Added Wheat	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**4,051,875**
Other Publicly Funded Research Agencies	
Defence Science and Technology Organisation (DSTO)	645,000
Australian Institute of Marine Science (AIMS)	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**645,000**
TOTAL ALL RESPONDENTS: 113	**59,959,993**

Table A11. Licence Income Information for Year 2001 (Ranked By Gross LOA Income)

	Gross LOA Income ($)	LOA Income Paid to Other Institutions ($)	Adjusted Gross LOA Income ($)	Number of LOAs Yielding Income
University				
The University of Queensland	27,518,304	0	27,518,304	29
The University of New England	6,017,925	200,000	5,817,925	62
The University of Melbourne	3,430,660	199,515	3,231,145	14
The University of New South Wales	1,718,343	570,000	1,148,343	24
University of Wollongong	1,546,600	0	1,546,600	2
Swinburne University of Technology	807,000	0	807,000	5
The University of Sydney	782,834	35,313	747,521	36
Royal Melbourne Institute of Technology	755,828	0	755,828	9
Queensland University of Technology	690,593	0	690,593	8
The Australian National University	634,684	0	634,684	8
The University of Adelaide	548,872	0	548,872	38
The University of Western Australia	463,500	0	463,500	7
University of South Australia	338,684	0	338,684	11
University of Technology, Sydney	144,181	0	144,181	6
The Flinders University of South Australia	119,580	0	119,580	5
The University of Newcastle	97,000	0	97,000	2
La Trobe University	41,880	0	41,880	1
Central Queensland University	20,000	0	20,000	1
James Cook University	15,237	0	15,237	1
Victoria University of Technology	12,500	0	12,500	1
Australian Catholic University	0	0	0	0
Charles Darwin University	0	0	0	0
Charles Sturt University	0	0	0	0
Deakin University	0	0	0	0
Edith Cowan University	0	0	0	0
Griffith University	0	0	0	0
Monash University	0	0	0	0
Murdoch University	0	0	0	0
Southern Cross University	0	0	0	0
The University of Notre Dame Australia	0	0	0	0
University of Ballarat	0	0	0	0
University of Canberra	0	0	0	0
University of Southern Queensland	0	0	0	0
University of Tasmania	0	0	0	0
University of the Sunshine Coast	0	0	0	0
TOTAL UNIVERSITIES: 35	**45,704,205**	**1,004,828**	**44,699,377**	**270**
Medical Research Institute				
Ludwig Institute for Cancer Research	5,546,465	2,757,078	2,789,387	13
Austin Research Institute	3,000,000	0	3,000,000	2
Garvan Institute of Medical Research	2,214,000	0	2,214,000	9
Walter and Eliza Hall Institute of Medical Research	1,670,065	0	1,670,065	10
Murdoch Childrens Research Institute	1,621,352	0	1,621,352	2
Peter Mac Callum Cancer Institute	412,000	0	412,000	3
Telethon Institute for Child Health Research	370,000	0	370,000	1
Howard Florey Institute	350,000	0	350,000	2
Macfarlane Burnet Institute for Medical Research and Public Health	250,000	0	250,000	1
St Vincent's Institute of Medical Research	82,794	0	82,794	2
Victor Chang Cardiac Research Institute	60,000	0	60,000	1
Centenary Institute of Cancer Medicine & Cell Biology	300	0	300	1
Baker Heart Research Institute	0	0	0	0
Brain Research Institute	0	0	0	0
Child Health Research Institute	0	0	0	0
Fremantle Heart Institute	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0
Institute of Dental Research	0	0	0	0
Melbourne Health	0	0	0	0
Mental Health Research Institute	0	0	0	0
Menzies School of Health Research	0	0	0	0
National Heart Foundation of Australia	0	0	0	0
National Stroke Research Institute	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0	0	0

continued over

Table A11. continued

	Gross LOA Income ($)	LOA Income Paid to Other Institutions ($)	Adjusted Gross LOA Income ($)	Number of LOAs Yielding Income
NSW State Cancer Council	0	0	0	0
Prince Henry's Institute of Medical Research	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0
Royal North Shore Hospital	0	0	0	0
The Heart Research Institute	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**15,576,976**	**2,757,078**	**12,819,898**	**47**
CSIRO	**17,115,096**	**1,900,092**	**15,215,004**	**294**
Cooperative Research Centre				
Eye Research and Technology	717,000	0	717,000	1
Discovery of Genes for Common Human Diseases	575,000	0	575,000	2
DSTC Pty Ltd	226,875	0	226,875	9
Sustainable Tourism	90,000	0	90,000	1
Molecular Plant Breeding	50,000	0	50,000	1
Value Added Wheat	48,000	0	48,000	0
Catchment Hydrology	30,000	0	30,000	0
Asthma Ltd	0	0	0	0
Australian Cotton	0	0	0	0
Australian Petroleum	0	0	0	0
Australian Photonics	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0
Australian Sheep Industry	0	0	0	0
Australian Telecommunications	0	0	0	0
Bioproducts	0	0	0	0
Capital Markets CRC Limited	0	0	0	0
Cast Metals Manufacturing	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0
Clean Power from Lignite	0	0	0	0
Coal in Sustainable Development	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0
Construction Innovation	0	0	0	0
Freshwater Ecology	0	0	0	0
Functional Communication Surfaces	0	0	0	0
Innovative Dairy Products	0	0	0	0
Innovative Wood Manufacturing	0	0	0	0
Interaction Design	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0
MicroTechnology	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0
Polymers	0	0	0	0
Railway Engineering and Technologies	0	0	0	0
Smart Internet Technology	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0
Sustainable Production Forestry	0	0	0	0
Sustainable Rice Production	0	0	0	0
Tropical Plant Protection	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0
Tropical Savannas	0	0	0	0
Vaccine Technology	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**1,736,875**	**0**	**1,736,875**	**14**
Other Publicly Funded Research Agencies				
Defence Science and Technology Organisation (DSTO)	654,000	0	654,000	7
Australian Institute of Marine Science (AIMS)	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**654,000**	**0**	**654,000**	**7**
TOTAL ALL RESPONDENTS: 113	**80,787,152**	**5,661,998**	**75,125,154**	**632**

Table A12. Licence Income by Income Type: Running Royalties, Cashed-in Equity and All Other Types for Year 2001 (Ranked by Gross LOA Income)

	Gross LOA Income ($)	Number of LOAs Yielding Income	Gross LOA Income: Running Royalties ($)	Number of LOAs Yielding Running Royalties	Gross LOA Income: Cashed-In Equity ($)	Number of LOAs Yielding Cashed-In Equity	Gross LOA Income: All Other Types ($)	Number of LOAs Yielding All Other Types
University								
The University of Queensland	27,518,304	29	1,978,113	11	225,000	1	25,315,191	17
The University of New England	6,017,925	62	117,925	2	0	0	5,900,000	60
The University of Melbourne	3,430,660	14	3,430,660	14	0	0	0	0
The University of New South Wales	1,718,343	24	1,005,813	22	0	0	712,480	6
University of Wollongong	1,546,600	2	6,600	1	0	0	1,540,000	1
Swinburne University of Technology	807,000	5	151,000	4	656,000	1	0	0
The University of Sydney	782,834	36	606,419	22	4,350	1	172,065	14
Royal Melbourne Institute of Technology	755,828	9	0	0	0	0	755,828	9
Queensland University of Technology	690,593	8	54,809	5	0	0	635,784	3
The Australian National University	634,684	8	619,684	7	0	0	15,000	1
The University of Adelaide	548,872	38	348,872	38	200,000	1	0	0
The University of Western Australia	463,500	7	0	0	0	0	463,500	7
University of South Australia	338,684	11	338,684	11	0	0	0	0
University of Technology, Sydney	144,181	6	144,181	6	0	0	0	0
The Flinders University of South Australia	119,580	5	96,080	4	0	0	23,500	1
The University of Newcastle	97,000	2	97,000	2	0	0	0	0
La Trobe University	41,880	1	41,880	1	0	0	0	0
Central Queensland University	20,000	1	20,000	1	0	0	0	0
James Cook University	15,237	1	15,237	1	0	0	0	0
Victoria University of Technology	12,500	1	0	0	0	0	12,500	1
Australian Catholic University	0	0	0	0	0	0	0	0
Charles Darwin University	0	0	0	0	0	0	0	0
Charles Sturt University	0	0	0	0	0	0	0	0
Deakin University	0	0	0	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0	0	0
Griffith University	0	0	0	0	0	0	0	0
Monash University	0	0	0	0	0	0	0	0
Murdoch University	0	0	0	0	0	0	0	0
Southern Cross University	0	0	0	0	0	0	0	0
The University of Notre Dame Australia	0	0	0	0	0	0	0	0
University of Ballarat	0	0	0	0	0	0	0	0
University of Canberra	0	0	0	0	0	0	0	0
University of Southern Queensland	0	0	0	0	0	0	0	0
University of Tasmania	0	0	0	0	0	0	0	0
University of the Sunshine Coast	0	0	0	0	0	0	0	0
TOTAL UNIVERSITIES: 35	**45,704,205**	**270**	**9,072,957**	**152**	**1,085,350**	**4**	**35,545,848**	**120**

continued over

Table A12. continued

	Gross LOA Income ($)	Number of LOAs Yielding Income	Gross LOA Income: Running Royalties ($)	Number of LOAs Yielding Running Royalties	Gross LOA Income: Cashed-In Equity ($)	Number of LOAs Yielding Cashed-In Equity	Gross LOA Income: All Other Types ($)	Number of LOAs Yielding All Other Types
Medical Research Institute								
Ludwig Institute for Cancer Research	5,546,465	13	5,546,465	8	0	0	0	0
Austin Research Institute	3,000,000	2	0	0	3,000,000	2	0	0
Garvan Institute of Medical Research	2,214,000	9	0	0	0	0	2,214,000	9
Walter and Eliza Hall Institute of Medical Research	1,670,065	10	0	0	0	0	0	0
Murdoch Childrens Research Institute	1,621,352	2	0	0	0	0	1,621,352	2
Peter Mac Callum Cancer Institute	412,000	3	0	0	0	0	412,000	3
Telethon Institute for Child Health Research	370,000	1	0	0	0	0	370,000	1
Howard Florey Institute	350,000	2	0	0	0	0	350,000	2
Macfarlane Burnet Institute for Medical Research and Public Health	250,000	1	0	0	0	0	250,000	1
St Vincent's Institute of Medical Research	82,794	2	82,794	2	0	0	0	0
Victor Chang Cardiac Research Institute	60,000	1	0	0	0	0	60,000	1
Centenary Institute of Cancer Medicine & Cell Biology	300	1	300	1	0	0	0	0
Baker Heart Research Institute	0	0	0	0	0	0	0	0
Brain Research Institute	0	0	0	0	0	0	0	0
Child Health Research Institute	0	0	0	0	0	0	0	0
Fremantle Heart Institute	0	0	0	0	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0	0	0	0	0
Institute of Dental Research	0	0	0	0	0	0	0	0
Melbourne Health	0	0	0	0	0	0	0	0
Mental Health Research Institute	0	0	0	0	0	0	0	0
Menzies School of Health Research	0	0	0	0	0	0	0	0
National Heart Foundation of Australia	0	0	0	0	0	0	0	0
National Stroke Research Institute	0	0	0	0	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0	0	0	0	0	0	0
NSW State Cancer Council	0	0	0	0	0	0	0	0
Prince Henry's Institute of Medical Research	0	0	0	0	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0	0	0	0	0
Royal North Shore Hospital	0	0	0	0	0	0	0	0
The Heart Research Institute	0	0	0	0	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**15,576,976**	**47**	**5,629,559**	**11**	**3,000,000**	**2**	**5,277,352**	**19**

continued over

Table A12. continued

	Gross LOA Income ($)	Number of LOAs Yielding Income	Gross LOA Income: Running Royalties ($)	Number of LOAs Yielding Running Royalties	Gross LOA Income: Cashed-In Equity ($)	Number of LOAs Yielding Cashed-In Equity	Gross LOA Income: All Other Types ($)	Number of LOAs Yielding All Other Types
CSIRO	**17,115,096**	**294**	**10,676,042**	**238**	**0**	**0**	**6,439,054**	**56**
Cooperative Research Centre								
Eye Research and Technology	717,000	1	717,000	1	0	0	0	0
Discovery of Genes for Common Human Diseases	575,000	2	0	0	0	0	575,000	2
DSTC Pty Ltd	226,875	9	0	0	0	0	226,875	9
Sustainable Tourism	90,000	1	0	0	0	0	90,000	1
Molecular Plant Breeding	50,000	1	0	0	0	0	50,000	1
Value Added Wheat	48,000	0	48,000	0	0	0	0	0
Catchment Hydrology	30,000	0	0	0	0	0	30,000	0
Asthma Ltd	0	0	0	0	0	0	0	0
Australian Cotton	0	0	0	0	0	0	0	0
Australian Petroleum	0	0	0	0	0	0	0	0
Australian Photonics	0	0	0	0	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0	0	0	0	0
Australian Sheep Industry	0	0	0	0	0	0	0	0
Australian Telecommunications	0	0	0	0	0	0	0	0
Bioproducts	0	0	0	0	0	0	0	0
Capital Markets CRC Limited	0	0	0	0	0	0	0	0
Cast Metals Manufacturing	0	0	0	0	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0	0	0	0	0
Clean Power from Lignite	0	0	0	0	0	0	0	0
Coal in Sustainable Development	0	0	0	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0	0	0	0	0
Construction Innovation	0	0	0	0	0	0	0	0
Freshwater Ecology	0	0	0	0	0	0	0	0
Functional Communication Surfaces	0	0	0	0	0	0	0	0
Innovative Dairy Products	0	0	0	0	0	0	0	0
Innovative Wood Manufacturing	0	0	0	0	0	0	0	0
Interaction Design	0	0	0	0	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0	0	0	0	0
MicroTechnology	0	0	0	0	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0	0	0	0	0
Polymers	0	0	0	0	0	0	0	0
Railway Engineering and Technologies	0	0	0	0	0	0	0	0
Smart Internet Technology	0	0	0	0	0	0	0	0

continued over

Table A12. continued

	Gross LOA Income ($)	Number of LOAs Yielding Income	Gross LOA Income: Running Royalties ($)	Number of LOAs Yielding Running Royalties	Gross LOA Income: Cashed-In Equity ($)	Number of LOAs Yielding Cashed-In Equity	Gross LOA Income: All Other Types ($)	Number of LOAs Yielding All Other Types
Sugar Industry Innovation through Biotechnology	0	0	0	0	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0	0	0	0	0
Sustainable Production Forestry	0	0	0	0	0	0	0	0
Sustainable Rice Production	0	0	0	0	0	0	0	0
Tropical Plant Protection	0	0	0	0	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0	0	0	0	0
Tropical Savannas	0	0	0	0	0	0	0	0
Vaccine Technology	0	0	0	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**1,736,875**	**14**	**765,000**	**1**	**0**	**0**	**971,875**	**13**
Other Publicly Funded Research Agencies								
Defence Science and Technology Organisation (DSTO)	654,000	7	654,000	7	0	0	0	0
Australian Institute of Marine Science (AIMS)	0	0	0	0	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**654,000**	**7**	**654,000**	**7**	**0**	**0**	**0**	**0**
TOTAL ALL RESPONDENTS: 113	**80,787,152**	**632**	**26,797,558**	**409**	**4,085,350**	**6**	**48,234,129**	**208**

Table A13. Inventor Involvement In Licensing for Year 2001 (Ranked by Inventor Extremely Involved)

	LOA Count – Inventor Extremely Involved	LOA Count – Inventor Very Involved	LOA Count – Inventor Moderately Involved	LOA Count – Inventor Somewhat Involved	LOA Count – Inventor Uninvolved
University					
Southern Cross University	20	0	0	0	0
The University of Melbourne	15	0	0	0	0
University of Wollongong	11	7	2	0	0
Royal Melbourne Institute of Technology	7	0	2	2	0
The University of Sydney	4	9	5	2	1
Victoria University of Technology	4	0	1	0	0
University of Technology, Sydney	3	0	3	0	0
The University of Western Australia	3	0	1	0	0
University of Canberra	3	0	0	0	1
The Australian National University	1	1	0	0	0
Charles Darwin University	1	0	0	0	0
La Trobe University	1	0	0	0	0
The University of Newcastle	1	0	0	0	0
The University of Queensland	0	10	4	1	1
The University of New South Wales	0	4	20	4	0
Queensland University of Technology	0	2	2	0	0
Swinburne University of Technology	0	1	2	0	0
Central Queensland University	0	1	0	0	0
Charles Sturt University	0	1	0	0	2
University of South Australia	0	1	0	1	0
The University of Adelaide	0	0	3	0	0
University of Tasmania	0	0	1	0	0
The Flinders University of South Australia	0	0	0	4	0
The University of New England	0	0	0	2	0
Australian Catholic University	0	0	0	0	0
Deakin University	0	0	0	0	0
Edith Cowan University	0	0	0	0	0
Griffith University	0	0	0	0	0
James Cook University	0	0	0	0	0
Monash University	0	0	0	0	0
Murdoch University	0	0	0	0	0
The University of Notre Dame Australia	0	0	0	0	0
University of Ballarat	0	0	0	0	0
University of Southern Queensland	0	0	0	0	0
University of the Sunshine Coast	0	0	0	0	0
TOTAL UNIVERSITIES: 35	**74**	**37**	**46**	**16**	**5**
Medical Research Institute					
Peter Mac Callum Cancer Institute	5	10	9	5	0
Walter and Eliza Hall Institute of Medical Research	4	0	0	0	0
Austin Research Institute	2	0	0	0	0
Howard Florey Institute	2	0	0	0	0
Murdoch Childrens Research Institute	1	0	0	0	0
Telethon Institute for Child Health Research	1	0	0	0	0
Victor Chang Cardiac Research Institute	1	0	0	0	0
Ludwig Institute for Cancer Research	0	1	5	0	7
Garvan Institute of Medical Research	0	1	0	3	2
Baker Heart Research Institute	0	0	0	0	0
Brain Research Institute	0	0	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	0	0	0	0	0
Child Health Research Institute	0	0	0	0	0
Fremantle Heart Institute	0	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0	0
Institute of Dental Research	0	0	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	0	0	0
Melbourne Health	0	0	0	0	0
Mental Health Research Institute	0	0	0	0	0
Menzies School of Health Research	0	0	0	0	0
National Heart Foundation of Australia	0	0	0	0	0
National Stroke Research Institute	0	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0	0	0	0
NSW State Cancer Council	**0**	**0**	**0**	**0**	**0**

continued

Table A13. continued

	LOA Count – Inventor Extremely Involved	LOA Count – Inventor Very Involved	LOA Count – Inventor Moderately Involved	LOA Count – Inventor Somewhat Involved	LOA Count – Inventor Uninvolved
Prince Henry's Institute of Medical Research	0	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0	0
Royal North Shore Hospital	0	0	0	0	0
St Vincent's Institute of Medical Research	0	0	0	0	0
The Heart Research Institute	0	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**16**	**12**	**14**	**8**	**9**
CSIRO	**60**	**56**	**15**	**17**	**11**
Cooperative Research Centre					
Australian Photonics	2	2	0	0	2
Clean Power from Lignite	1	0	0	0	0
Polymers	0	3	1	0	0
Sustainable Tourism	0	2	2	0	0
Value Added Wheat	0	2	0	0	0
DSTC Pty Ltd	0	1	2	4	2
Molecular Plant Breeding	0	1	0	0	0
Tropical Plant Protection	0	0	1	0	0
Asthma Ltd	0	0	0	0	0
Australian Cotton	0	0	0	0	0
Australian Petroleum	0	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0	0
Australian Sheep Industry	0	0	0	0	0
Australian Telecommunications	0	0	0	0	0
Bioproducts	0	0	0	0	0
Capital Markets CRC Limited	0	0	0	0	0
Cast Metals Manufacturing	0	0	0	0	0
Catchment Hydrology	0	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0	0
Coal in Sustainable Development	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0	0
Construction Innovation	0	0	0	0	0
Discovery of Genes for Common Human Diseases	0	0	0	0	0
Eye Research and Technology	0	0	0	0	0
Freshwater Ecology	0	0	0	0	0
Functional Communication Surfaces	0	0	0	0	0
Innovative Dairy Products	0	0	0	0	0
Innovative Wood Manufacturing	0	0	0	0	0
Interaction Design	0	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0	0
MicroTechnology	0	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0	0
Railway Engineering and Technologies	0	0	0	0	0
Smart Internet Technology	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0	0
Sustainable Production Forestry	0	0	0	0	0
Sustainable Rice Production	0	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0	0
Tropical Savannas	0	0	0	0	0
Vaccine Technology	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**3**	**11**	**6**	**4**	**4**
Other Publicly Funded Research Agencies					
Australian Institute of Marine Science (AIMS)	0	1	0	0	0
Defence Science and Technology Organisation (DSTO)	0	1	0	0	6
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**0**	**2**	**0**	**0**	**6**
TOTAL ALL RESPONDENTS: 113	**153**	**118**	**81**	**45**	**35**

Table A14. Licences/Options/Assignments (LOAs) by Research Area for Year 2001 (Ranked by LOAs Executed)

University	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
The University of Sydney	1986	184	14	66	97	10	23	26	0	9	4	0	3	1	0	2	1	0	1	27	2	10	27	2	16	1	0	2
The University of New England	1970	62	62	62	0	0	0	0	0	0	62	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of New South Wales	1998	60	2	42	9	2	9	0	0	0	39	0	21	0	0	0	0	0	0	12	0	12	0	0	0	0	0	0
Queensland University of Technology	1989	42	1	13	5	1	3	2	0	1	18	0	0	3	0	3	2	0	0	3	0	2	9	0	4	0	0	0
University of Wollongong	1986	38	2	22	8	0	5	17	2	11	5	0	3	0	0	0	0	0	0	8	0	3	0	0	0	0	0	0
Monash University	1986	36	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The Australian National University	1995	36	4	36	14	4	14	1	0	1	0	0	0	0	0	0	1	0	1	9	0	9	10	0	10	0	0	0
The University of Adelaide	1992	35	0	35	25	0	25	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9	1	0	1	0	0	0
The University of Queensland	2000	34	12	33	16	7	16	2	0	2	1	1	1	2	1	2	0	0	0	9	1	10	3	2	2	0	0	0
University of Technology, Sydney	1996	28	1	10	0	0	0	0	0	0	0	0	0	0	0	0	9	0	2	10	0	5	9	1	3	0	0	0
Southern Cross University	2000	25	1	25	25	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Victoria University of Technology	1993	19	0	13	3	0	1	4	0	4	7	0	4	2	0	2	0	0	0	2	0	1	1	0	1	0	0	0
Royal Melbourne Institute of Technology	2000	18	1	18	6	0	6	1	0	1	9	1	9	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
The University of Melbourne	2001	15	2	8	5	1	1	0	0	0	8	0	1	0	0	0	0	0	0	2	1	6	0	0	0	0	0	0
La Trobe University	1994	14	2	3	12	1	3	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Western Australia	1993	12	0	12	1	0	1	3	0	3	0	0	0	0	0	0	1	0	1	1	0	1	4	0	4	2	0	2
University of South Australia	1989	11	0	11	0	0	0	0	0	0	3	0	3	2	0	2	1	0	1	3	0	3	2	0	2	0	0	0
The University of Newcastle	1985	10	4	8	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	2	4	4	2	3	0	0	0
The Flinders University of South Australia	1987	9	7	8	7	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
Charles Sturt University	1999	8	2	3	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	1
Swinburne University of Technology	1995	6	4	6	1	1	1	0	0	0	2	2	2	0	0	0	0	0	0	3	1	3	0	0	0	0	0	0
University of Canberra	2000	4	2	4	0	0	0	2	1	2	0	0	0	1	1	2	0	0	0	0	0	0	1	0	0	0	0	0
Griffith University	2001	2	2	2	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
Central Queensland University	2000	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Charles Darwin University	2001	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
James Cook University	2000	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Tasmania	2001	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1

continued

Table A14. continued

	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
Australian Catholic University	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deakin University	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Edith Cowan University	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Murdoch University	2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Notre Dame Australia	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Ballarat	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Southern Queensland	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of the Sunshine Coast	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL UNIVERSITIES: 35		**712**	**140**	**444**	**241**	**37**	**144**	**59**	**3**	**34**	**160**	**6**	**110**	**11**	**2**	**13**	**15**	**0**	**6**	**107**	**9**	**82**	**73**	**7**	**47**	**8**	**1**	**6**
Medical Research Institute																												
Garvan Institute of Medical Research	1990	50	2	33	40	2	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	7	0	0	0
Peter Mac Callum Cancer Institute	2001	29	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0
Austin Research Institute	1992	10	2	12	10	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walter and Eliza Hall Institute of Medical Research	2001	4	2	4	4	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	1995	3	0	3	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Royal North Shore Hospital	1996	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	0	0	0
Howard Florey Institute	2000	2	0	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
St Vincent's Institute of Medical Research	n/a	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0
Murdoch Childrens Research Institute	2000	1	2	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	1999	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Melbourne Health	1999	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
Telethon Institute for Child Health Research	2000	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prince Henry's Institute of Medical Research	1986	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Victor Chang Cardiac Research Institute	n/a	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table A14. continued

	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
Ludwig Institute for Cancer Research	1980	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0
Baker Heart Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brain Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Child Health Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fremantle Heart Institute	1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Genomic Disorders Research Centre	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Institute of Dental Research	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mental Health Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Menzies School of Health Research	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
National Heart Foundation of Australia	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
National Stroke Research Institute	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
National Vision Research Institute of Australia	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NSW State Cancer Council	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prince of Wales Medical Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The Heart Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turning Point Alcohol and Drug Centre	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Victorian Breast Cancer Research Consortium	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33		**109**	**8**	**85**	**88**	**6**	**51**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**2**	**34**	**0**	**0**	**0**
CSIRO	**1901**	**0**	**0**	**535**	**0**	**0**	**108**	**0**	**0**	**158**	**0**	**0**	**92**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**143**	**0**	**0**	**34**	**0**	**0**	**0**
Cooperative Research Centre																													
DSTC Pty Ltd	1999	17	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	2
Discovery of Genes for Common Human Diseases	1997	6	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polymers	2001	4	0	4	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table A14. continued

	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
Sustainable Tourism	1998	4	0	4	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eye Research and Technology	1991	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0
Cast Metals Manufacturing	1996	3	0	3	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Plant Protection	1999	3	0	3	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Catchment Hydrology	1999	2	2	1	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clean Power from Lignite	1995	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	0	0	0	0	0	0	0
Molecular Plant Breeding	2000	2	0	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Production Forestry	1997	2	0	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Value Added Wheat	2001	2	0	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coal in Sustainable Development	1999	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asthma Ltd	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Cotton	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Petroleum	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Photonics	1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Poultry Pty Ltd	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Sheep Industry	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Telecommunications	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bioproducts	1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital Markets CRC Limited	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chronic Inflammatory Diseases	2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction Innovation	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freshwater Ecology	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Functional Communication Surfaces	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Innovative Dairy Products	2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Innovative Wood Manufacturing	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interaction Design	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table A14. continued

	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
Landscape Environments & Mineral Exploration	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MicroTechnology	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plant-based Management of Dryland Salinity	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Railway Engineering and Technologies	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Smart Internet Technology	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Aquaculture of Finfish	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Rice Production	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Rainforest Ecology and Management	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Savannas	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vaccine Technology	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41		**51**	**6**	**32**	**10**	**1**	**10**	**9**	**2**	**8**	**4**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**2**	**2**	**2**	**2**	**17**	**0**	**2**
Other Publicly Funded Research Agencies																												
Defence Science and Technology Organisation (DSTO)	1990	112	0	58	5	0	0	17	0	0	17	0	0	0	0	0	0	0	0	33	0	0	0	0	0	40	0	0
Australian Institute of Marine Science (AIMS)	1984	7	0	7	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3		**119**	**0**	**65**	**12**	**0**	**7**	**17**	**0**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**40**	**0**	**0**
TOTAL ALL RESPONDENTS: 113		**991**	**154**	**1161**	**351**	**44**	**320**	**85**	**5**	**200**	**181**	**6**	**206**	**11**	**2**	**13**	**15**	**0**	**6**	**142**	**10**	**227**	**96**	**11**	**117**	**65**	**1**	**8**

Table A15. Start-up Companies Formed in Year 2001 (Ranked by Start-Up Companies Formed)

	Start-Up Companies Formed	Start-Up Companies Formed: Those Having Place of Business in Australia	Start-Up Companies Formed: Those Having Headquarters in Australia	Start-Up Companies that Became Non-Operational at Year End 2001	Start-Up Companies Operational at Year End 2001	Start-Up Companies Operational at Year End 2001 with Institution Holding Equity
University						
The University of Queensland	13	13	13	3	27	25
The University of Sydney	9	8	8	0	24	17
Swinburne University of Technology	3	3	3	0	3	3
The University of Melbourne	3	3	3	0	3	3
Griffith University	2	1	1	0	2	2
University of Technology, Sydney	2	2	2	0	2	1
Victoria University of Technology	2	2	2	0	2	0
Central Queensland University	1	0	0	0	0	0
Charles Darwin University	1	1	1	0	1	1
La Trobe University	1	1	1	0	4	0
Queensland University of Technology	1	1	1	0	3	1
Royal Melbourne Institute of Technology	1	1	1	0	2	2
The Flinders University of South Australia	1	1	1	0	1	1
The University of Adelaide	1	1	1	0	1	1
The University of New England	1	1	1	0	1	0
The University of Newcastle	1	1	1	0	1	1
The University of Western Australia	1	1	1	0	6	3
University of South Australia	1	1	1	0	1	1
Monash University	1	1	1	0	6	0
The University of New South Wales	0	0	0	0	8	7
Deakin University	0	0	0	0	1	1
Australian Catholic University	0	0	0	0	0	0
Charles Sturt University	0	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0
James Cook University	0	0	0	0	0	0
Murdoch University	0	0	0	0	0	0
Southern Cross University	0	0	0	0	0	0
The Australian National University	0	0	0	0	0	0
The University of Notre Dame Australia	0	0	0	0	0	0
University of Ballarat	0	0	0	0	0	0
University of Canberra	0	0	0	0	0	0
University of Southern Queensland	0	0	0	0	0	0
University of Tasmania	0	0	0	0	0	0
University of the Sunshine Coast	0	0	0	0	0	0
University of Wollongong	0	0	0	0	0	0
TOTAL UNIVERSITIES: 35	**46**	**43**	**43**	**3**	**99**	**70**
Medical Research Institute						
Murdoch Childrens Research Institute	3	3	3	0	1	1
Austin Research Institute	2	2	2	0	2	2
Centenary Institute of Cancer Medicine & Cell Biology	1	1	1	0	1	1
Walter and Eliza Hall Institute of Medical Research	1	1	1	1	1	1
Garvan Institute of Medical Research	1	1	1	0	3	3
Royal North Shore Hospital	0	0	0	1	1	0
Baker Heart Research Institute	0	0	0	0	0	0
Brain Research Institute	0	0	0	0	0	0
Child Health Research Institute	0	0	0	0	0	0
Fremantle Heart Institute	0	0	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0	0	0
Howard Florey Institute	0	0	0	0	0	0
Institute of Dental Research	0	0	0	0	0	0
Ludwig Institute for Cancer Research	0	0	0	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	0	0	0	0
Melbourne Health	0	0	0	0	0	0
Mental Health Research Institute	0	0	0	0	0	0
Menzies School of Health Research	0	0	0	0	0	0
National Heart Foundation of Australia	0	0	0	0	0	0
National Stroke Research Institute	0	0	0	0	0	0

continued

Table A15. continued

	Start-Up Companies Formed	Start-Up Companies Formed: Those Having Place of Business in Australia	Start-Up Companies Formed: Those Having Headquarters in Australia	Start-Up Companies that Became Non-Operational at Year End 2001	Start-Up Companies Operational at Year End 2001	Start-Up Companies Operational at Year End 2001 with Institution Holding Equity
National Vision Research Institute of Australia	0	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0	0	0	0	0	0
NSW State Cancer Council	0	0	0	0	0	0
Peter Mac Callum Cancer Institute	0	0	0	0	0	0
Prince Henry's Institute of Medical Research	0	0	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0	0	0
St Vincent's Institute of Medical Research	0	0	0	0	0	0
Telethon Institute for Child Health Research	0	0	0	0	0	0
The Heart Research Institute	0	0	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**8**	**8**	**8**	**2**	**9**	**8**
CSIRO	**10**	**10**	**10**	**3**	**7**	**6**
Cooperative Research Centre						
Sustainable Tourism	3	3	3	0	1	1
Polymers	2	2	2	0	2	2
Australian Photonics	1	1	1	0	1	1
Clean Power from Lignite	1	1	1	0	1	1
Asthma Ltd	0	0	0	0	0	0
Australian Cotton	0	0	0	0	0	0
Australian Petroleum	0	0	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0	0	0
Australian Sheep Industry	0	0	0	0	0	0
Australian Telecommunications	0	0	0	0	0	0
Bioproducts	0	0	0	0	0	0
Capital Markets CRC Limited	0	0	0	0	0	0
Cast Metals Manufacturing	0	0	0	0	0	0
Catchment Hydrology	0	0	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0	0	0
Coal in Sustainable Development	0	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0	0	0
Construction Innovation	0	0	0	0	0	0
Discovery of Genes for Common Human Diseases	0	0	0	0	0	0
DSTC Pty Ltd	0	0	0	0	0	0
Eye Research and Technology	0	0	0	0	0	0
Freshwater Ecology	0	0	0	0	0	0
Functional Communication Surfaces	0	0	0	0	0	0
Innovative Dairy Products	0	0	0	0	0	0
Innovative Wood Manufacturing	0	0	0	0	0	0
Interaction Design	0	0	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0	0	0
MicroTechnology	0	0	0	0	0	0
Molecular Plant Breeding	0	0	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0	0	0
Railway Engineering and Technologies	0	0	0	0	0	0
Smart Internet Technology	0	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0	0	0
Sustainable Production Forestry	0	0	0	0	0	0
Sustainable Rice Production	0	0	0	0	0	0
Tropical Plant Protection	0	0	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0	0	0
Tropical Savannas	0	0	0	0	0	0
Vaccine Technology	0	0	0	0	0	0
Value Added Wheat	0	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**7**	**7**	**7**	**0**	**5**	**5**

continued

Table A15. continued

	Start-Up Companies Formed	Start-Up Companies Formed: Those Having Place of Business in Australia	Start-Up Companies Formed: Those Having Headquarters in Australia	Start-Up Companies that Became Non-Operational at Year End 2001	Start-Up Companies Operational at Year End 2001	Start-Up Companies Operational at Year End 2001 with Institution Holding Equity
Other Publicly Funded Research Agencies						
Australian Institute of Marine Science (AIMS)	0	0	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0	0	0
Defence Science and Technology Organisation (DSTO)	0	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL ALL RESPONDENTS: 113	**71**	**68**	**68**	**8**	**120**	**89**

Table A16. Value of All Equity Holdings at Year End 2001 (Ranked by Value of All Equity Holdings at Year End 2001)

	Value of All Equity Holdings at Year End 2001 ($)
University	
The University of Queensland	46,408,138
The Flinders University of South Australia	11,500,000
The University of Western Australia	11,400,000
Swinburne University of Technology	9,100,000
The University of Sydney	7,663,269
The University of Melbourne	3,123,000
Griffith University	858,142
The University of New South Wales	554,000
University of South Australia	300,000
La Trobe University	130,000
Deakin University	100,000
The University of Newcastle	21,556
Australian Catholic University	0
Central Queensland University	0
Charles Darwin University	0
Charles Sturt University	0
Edith Cowan University	0
James Cook University	0
Monash University	0
Murdoch University	0
Queensland University of Technology	0
Royal Melbourne Institute of Technology	0
Southern Cross University	0
The Australian National University	0
The University of Adelaide	0
The University of New England	0
The University of Notre Dame Australia	0
University of Ballarat	0
University of Canberra	0
University of Southern Queensland	0
University of Tasmania	0
University of Technology, Sydney	0
University of the Sunshine Coast	0
University of Wollongong	0
Victoria University of Technology	0
TOTAL UNIVERSITIES: 35	**91,158,105**
Medical Research Institute	
Austin Research Institute	3,000,000
Centenary Institute of Cancer Medicine & Cell Biology	2,000,000
Murdoch Childrens Research Institute	1,150,000

continued

Table A16. continued

	Value of All Equity Holdings at Year End 2001 ($)
Howard Florey Institute	100,000
Baker Heart Research Institute	0
Brain Research Institute	0
Child Health Research Institute	0
Fremantle Heart Institute	0
Garvan Institute of Medical Research	0
Genomic Disorders Research Centre	0
Institute of Dental Research	0
Ludwig Institute for Cancer Research	0
Macfarlane Burnet Institute for Medical Research and Public Health	0
Melbourne Health	0
Mental Health Research Institute	0
Menzies School of Health Research	0
National Heart Foundation of Australia	0
National Stroke Research Institute	0
National Vision Research Institute of Australia	0
Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD)	0
NSW State Cancer Council	0
Peter Mac Callum Cancer Institute	0
Prince Henry's Institute of Medical Research	0
Prince of Wales Medical Research Institute	0
Royal Brisbane & Women's Hospital Foundation	0
Royal North Shore Hospital	0
St Vincent's Institute of Medical Research	0
Telethon Institute for Child Health Research	0
The Heart Research Institute	0
Turning Point Alcohol and Drug Centre	0
Victor Chang Cardiac Research Institute	0
Victorian Breast Cancer Research Consortium	0
Walter and Eliza Hall Institute of Medical Research	0
TOTAL MEDICAL RESEARCH INSTITUTES: 33	**6,250,000**
CSIRO	**29,826,668**
Cooperative Research Centre	
Sustainable Tourism	2,800,000
Clean Power from Lignite	50,050
Asthma Ltd	0
Australian Cotton	0
Australian Petroleum	0
Australian Photonics	0
Australian Poultry Pty Ltd	0
Australian Sheep Industry	0
Australian Telecommunications	0
Bioproducts	0
Capital Markets CRC Limited	0
Cast Metals Manufacturing	0
Catchment Hydrology	0
Chronic Inflammatory Diseases	0
Coal in Sustainable Development	0
Coastal Zone, Estuary and Waterway Management	0
Construction Innovation	0
Discovery of Genes for Common Human Diseases	0
DSTC Pty Ltd	0
Eye Research and Technology	0
Freshwater Ecology	0
Functional Communication Surfaces	0
Innovative Dairy Products	0
Innovative Wood Manufacturing	0
Interaction Design	0
Landscape Environments & Mineral Exploration	0
MicroTechnology	0
Molecular Plant Breeding	0
Plant-based Management of Dryland Salinity	0
Polymers	0
Railway Engineering and Technologies	0

continued

Table A16. continued

	Value of All Equity Holdings at Year End 2001 ($)
Smart Internet Technology	0
Sugar Industry Innovation through Biotechnology	0
Sustainable Aquaculture of Finfish	0
Sustainable Production Forestry	0
Sustainable Rice Production	0
Tropical Plant Protection	0
Tropical Rainforest Ecology and Management	0
Tropical Savannas	0
Vaccine Technology	0
Value Added Wheat	0
TOTAL COOPERATIVE RESEARCH CENTRES: 41	**2,850,050**
Other Publicly Funded Research Agencies	
Australian Institute of Marine Science (AIMS)	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0
Defence Science and Technology Organisation (DSTO)	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**0**
TOTAL ALL RESPONDENTS: 113	**130,084,823**

Tables for 2002

Table B1. Commercialisation Staff (Full-time Equivalent) for Year 2002 (Ranked by Commercialisation Staff)

	Commercialisation Staff (FTE)	Other Staff (FTE) Supporting Commercialisation Activities	Staff (FTE) Employed in a Commercialisation Office	Staff (FTE) Employed in a Commercialisation Company
University				
The University of New England	32	6	2	35
The University of New South Wales	12	4	0	12
The University of Queensland	11	6	0	17
Monash University	9	4	0	8
The University of Melbourne	9	3	7	5
The University of Sydney	7	4	11	0
University of South Australia	7	3	10	0
The University of Adelaide	6	3	0	9
The Flinders University of South Australia	4	3	0	5
The Australian National University	4	2	0	6
Royal Melbourne Institute of Technology	4	1	2	0
Swinburne University of Technology	4	1	3	1
The University of Western Australia	3	1	4	0
Queensland University of Technology	2	10	4	0
Griffith University	2	1	0	0
Macquarie University	2	1	0	2
The University of Newcastle	2	1	0	4
University of Technology, Sydney	2	1	3	0
Curtin University of Technology	2	0	0	0
University of Tasmania	2	0	2	0
University of Western Sydney	2	0	2	0
La Trobe University	1	2	2	0
University of Wollongong	1	1	0	0
Deakin University	1	0	0	0
James Cook University	1	0	1	0
Murdoch University	1	0	1	0
University of Ballarat	1	0	1	0
Victoria University of Technology	1	0	1	0
Southern Cross University	0	1	0	0
Australian Catholic University	0	0	0	0
Central Queensland University	0	0	0	0
Charles Darwin University	0	0	0	0
Charles Sturt University	0	0	0	0
Edith Cowan University	0	0	0	0
The University of Notre Dame Australia	0	0	0	0
University of Canberra	0	0	0	0
University of Southern Queensland	0	0	0	0
University of the Sunshine Coast	0	0	0	0
TOTAL UNIVERSITIES: 38	**135**	**59**	**56**	**104**
Medical Research Institute				
Austin Research Institute	4	2	0	6
Howard Florey Institute	3	6	3	0
Centenary Institute of Cancer Medicine & Cell Biology	2	0	1	1
Garvan Institute of Medical Research	2	0	2	0
Royal North Shore Hospital	2	0	1	1
Walter and Eliza Hall Institute of Medical Research	2	0	2	0
Baker Heart Research Institute	1	1	2	0
Ludwig Institute for Cancer Research	1	1	2	0
Melbourne Health	1	0	1	0
Prince Henry's Institute of Medical Research	1	0	1	0
Queensland Institute of Medical Research	1	0	1	0
Lions Ear and Hearing Institute	0	2	0	0
Australian Neuromuscular Research Institute	0	1	0	0
Murdoch Childrens Research Institute	0	1	0	0
Telethon Institute for Child Health Research	0	1	0	0
Brain Research Institute	0	0	0	0
Fremantle Heart Institute	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0
Institute of Dental Research	0	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	0	0
Mental Health Research Institute	0	0	0	0

continued over

Table B1. continued

	Commercialisation Staff (FTE)	Other Staff (FTE) Supporting Commercialisation Activities	Staff (FTE) Employed in a Commercialisation Office	Staff (FTE) Employed in a Commercialisation Company
Menzies School of Health Research	0	0	0	0
National Heart Foundation of Australia	0	0	0	0
National Stroke Research Institute	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0	0	0
NSW State Cancer Council	0	0	0	0
Peter Mac Callum Cancer Institute	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0
St Vincent's Institute of Medical Research	0	0	0	0
The Heart Research Institute	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**20**	**15**	**16**	**8**
CSIRO	**133**	**52**	**185**	**0**
Cooperative Research Centre				
Hydrometallurgy	16	4	0	0
Eye Research and Technology	14	1	1	0
Cattle and Beef Quality	11	0	2	0
DSTC Pty Ltd	4	0	2	2
Bioproducts	2	3	1	1
Australian Telecommunications	2	2	1	0
Sustainable Tourism	2	1	0	2
Cellular Growth Factors	2	0	0	1
Clean Power from Lignite	1	1	0	1
Landscape Environments & Mineral Exploration	1	1	0	0
Polymers	1	1	1	0
Railway Engineering and Technologies	1	1	1	0
Cast Metals Manufacturing	1	0	0	0
Catchment Hydrology	1	0	0	0
Coal in Sustainable Development	1	0	0	0
Discovery of Genes for Common Human Diseases	1	0	1	0
Innovative Dairy Products	1	0	0	1
Innovative Wood Manufacturing	1	0	0	1
MicroTechnology	1	0	0	1
Molecular Plant Breeding	1	0	1	0
Pest Animal Control	1	0	0	1
Smart Internet Technology	1	0	0	0
Tropical Plant Protection	1	0	1	0
Value Added Wheat	1	0	1	0
Asthma Ltd	0	0	0	0
Australian Cotton	0	0	0	0
Australian Petroleum	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0
Australian Sheep Industry	0	0	0	0
Australian Weed Management	0	0	0	0
Capital Markets CRC Limited	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0
Construction Innovation	0	0	0	0
Freshwater Ecology	0	0	0	0
Functional Communication Surfaces	0	0	0	0
Interaction Design	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0
Predictive Mineral Discovery	0	0	1	0
Sugar Industry Innovation through Biotechnology	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0
Sustainable Production Forestry	0	0	0	0
Sustainable Rice Production	0	0	0	0
The Great Barrier Reef World Heritage Area	0	0	0	0

continued over

Table B1. continued

	Commercialisation Staff (FTE)	Other Staff (FTE) Supporting Commercialisation Activities	Staff (FTE) Employed in a Commercialisation Office	Staff (FTE) Employed in a Commercialisation Company
Tropical Rainforest Ecology and Management	0	0	0	0
Tropical Savannas	0	0	0	0
Vaccine Technology	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**69**	**15**	**14**	**11**
Other Publicly Funded Research Agencies				
Defence Science and Technology Organisation (DSTO)	4	1	5	0
Australian Institute of Marine Science (AIMS)	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**4**	**1**	**5**	**0**
TOTAL ALL RESPONDENTS: 124	**361**	**142**	**276**	**123**

Table B2. Research Expenditure for Year 2002 (Ranked by Research Expenditure)

	Research Expenditure ($)	Calendar Year	Fiscal Year
University			
The University of Melbourne	363,099,493	Y	N
The University of Queensland	277,524,708	Y	N
The University of Sydney	260,128,780	Y	N
Monash University	242,800,000	Y	N
The Australian National University	241,600,000	Y	N
The University of New South Wales	187,845,124	Y	N
The University of Western Australia	117,000,000	Y	N
The University of Adelaide	111,861,000	Y	N
Royal Melbourne Institute of Technology	90,221,820	Y	N
Griffith University	86,028,217	Y	N
Queensland University of Technology	85,092,657	Y	N
Curtin University of Technology	80,922,855	Y	N
La Trobe University	73,881,625	Y	N
University of Tasmania	68,031,950	Y	N
The University of Newcastle	56,387,342	Y	N
University of Wollongong	54,460,735	Y	N
Murdoch University	50,693,356	Y	N
Macquarie University	48,035,000	Y	N
Deakin University	46,643,000	Y	N
The Flinders University of South Australia	46,628,448	Y	N
The University of New England	44,746,284	Y	N
University of Technology, Sydney	39,423,960	Y	N
University of South Australia	34,020,121	Y	N
University of Western Sydney	29,613,830	Y	N
Victoria University of Technology	29,174,000	Y	N
Swinburne University of Technology	27,744,000	Y	N
James Cook University	26,426,710	Y	N
Edith Cowan University	22,705,326	Y	N
Charles Darwin University	17,536,000	Y	N
University of Southern Queensland	14,222,840	Y	N
Southern Cross University	12,143,040	Y	N
Central Queensland University	8,983,000	Y	N
Charles Sturt University	8,000,000	Y	N
University of Ballarat	5,800,169	Y	N
Australian Catholic University	5,523,559	Y	N
University of Canberra	4,366,000	Y	N
University of the Sunshine Coast	1,700,763	Y	N
The University of Notre Dame Australia	208,982	Y	N
TOTAL UNIVERSITIES: 38	**2,921,224,694**	**38**	**0**
Medical Research Institute			
Walter and Eliza Hall Institute of Medical Research	55,710,922	N	Y
Queensland Institute of Medical Research	33,288,256	N	Y
Murdoch Childrens Research Institute	28,576,539	Y	N

continued over

Table B2. continued

	Research Expenditure ($)	Calendar Year	Fiscal Year
Garvan Institute of Medical Research	22,325,000	Y	N
Peter Mac Callum Cancer Institute	19,865,510	Y	N
Baker Heart Research Institute	18,343,000	Y	N
Ludwig Institute for Cancer Research	16,865,938	Y	N
Macfarlane Burnet Institute for Medical Research and Public Health	13,612,855	Y	N
Howard Florey Institute	11,000,000	Y	N
Menzies School of Health Research	10,500,000	N	Y
Telethon Institute for Child Health Research	10,351,000	Y	N
Victor Chang Cardiac Research Institute	7,250,000	Y	N
Prince Henry's Institute of Medical Research	6,471,440	Y	N
Austin Research Institute	6,289,000	Y	N
St Vincent's Institute of Medical Research	4,936,000	Y	N
Royal North Shore Hospital	4,884,000	N	Y
Melbourne Health	4,883,074	Y	N
Australian Neuromuscular Research Institute	2,100,000	Y	N
National Stroke Research Institute	1,787,799	Y	N
Royal Brisbane & Women's Hospital Foundation	1,061,211	N	Y
Centenary Institute of Cancer Medicine & Cell Biology	992,097	Y	N
Genomic Disorders Research Centre	800,859	Y	N
Lions Ear and Hearing Institute	200,000	Y	N
Fremantle Heart Institute	89,000	Y	N
Brain Research Institute	0	Y	N
Institute of Dental Research	0	Y	N
Mental Health Research Institute	0	Y	N
National Heart Foundation of Australia	0	Y	N
National Vision Research Institute of Australia	0	Y	N
Neuroscience Institute of Schizophrenia and Allied Disorders	0	Y	N
NSW State Cancer Council	0	Y	N
Prince of Wales Medical Research Institute	0	Y	N
The Heart Research Institute	0	Y	N
Turning Point Alcohol and Drug Centre	0	Y	N
Victorian Breast Cancer Research Consortium	0	Y	N
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**282,183,500**	**30**	**5**
CSIRO	**807,496,000**	**N**	**Y**
Cooperative Research Centre			
Plant-based Management of Dryland Salinity	38,043,703	N	Y
Eye Research and Technology	24,463,000	N	Y
Cast Metals Manufacturing	22,548,000	N	Y
Value Added Wheat	11,000,000	N	Y
Cattle and Beef Quality	10,778,819	N	Y
Cellular Growth Factors	10,126,000	N	Y
Australian Sheep Industry	9,096,000	N	Y
Smart Internet Technology	8,911,025	N	Y
MicroTechnology	8,500,000	N	Y
Hydrometallurgy	7,300,000	N	Y
Clean Power from Lignite	7,165,800	N	Y
Australian Cotton	6,650,000	N	Y
Freshwater Ecology	6,515,000	N	Y
Discovery of Genes for Common Human Diseases	6,313,070	Y	N
DSTC Pty Ltd	6,012,792	N	Y
Bioproducts	5,639,000	N	Y
Catchment Hydrology	5,490,000	N	Y
Pest Animal Control	5,341,000	Y	N
Asthma Ltd	4,918,000	N	Y
Australian Petroleum	4,900,000	N	Y
The Great Barrier Reef World Heritage Area	4,667,000	N	Y
Australian Telecommunications	4,509,845	Y	N
Landscape Environments & Mineral Exploration	4,349,000	N	Y
Polymers	4,300,000	N	Y
Tropical Plant Protection	4,179,000	N	Y
Sustainable Production Forestry	3,639,500	N	Y
Chronic Inflammatory Diseases	3,437,000	N	Y
Sustainable Tourism	3,232,400	N	Y
Innovative Dairy Products	3,100,000	Y	N

continued over

Table B2. continued

	Research Expenditure ($)	Calendar Year	Fiscal Year
Capital Markets CRC Limited	3,098,190	N	Y
Innovative Wood Manufacturing	1,795,000	N	Y
Predictive Mineral Discovery	16,942	N	Y
Molecular Plant Breeding	15,526	N	Y
Railway Engineering and Technologies	5,344	N	Y
Australian Poultry Pty Ltd	0	Y	N
Australian Weed Management	0	Y	N
Coal in Sustainable Development	0	N	Y
Coastal Zone, Estuary and Waterway Management	0	N	Y
Construction Innovation	0	Y	N
Functional Communication Surfaces	0	Y	N
Interaction Design	0	Y	N
Sugar Industry Innovation through Biotechnology	0	N	Y
Sustainable Aquaculture of Finfish	0	N	Y
Sustainable Rice Production	0	Y	N
Tropical Rainforest Ecology and Management	0	Y	N
Tropical Savannas	0	Y	N
Vaccine Technology	0	Y	N
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**250,055,956**	**13**	**34**
Other Publicly Funded Research Agencies			
Defence Science and Technology Organisation (DSTO)	232,243,000	N	Y
Australian Nuclear Science and Technology Organisation (ANSTO)	43,424,000	N	Y
Australian Institute of Marine Science (AIMS)	0	N	Y
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**275,667,000**	**0**	**3**
TOTAL ALL RESPONDENTS: 124	**4,536,627,150**	**81**	**43**

Table B3. Invention Disclosures for Year 2002 (Ranked by Invention Disclosures)

	Invention Disclosures
University	
The University of Queensland	95
The University of Sydney	84
The University of New South Wales	70
Queensland University of Technology	39
The University of Adelaide	35
The University of Western Australia	27
Swinburne University of Technology	26
The Flinders University of South Australia	21
The University of Newcastle	16
University of Wollongong	14
The Australian National University	13
Curtin University of Technology	12
Royal Melbourne Institute of Technology	11
Macquarie University	10
University of Tasmania	10
University of Western Sydney	10
James Cook University	6
Edith Cowan University	3
Griffith University	3
Murdoch University	3
The University of Melbourne	3
Central Queensland University	2
Charles Darwin University	2
La Trobe University	2
Southern Cross University	2
University of Technology, Sydney	1
Victoria University of Technology	1
Australian Catholic University	0
Charles Sturt University	0
Deakin University	0
Monash University	0
The University of New England	0
The University of Notre Dame Australia	0
University of Ballarat	0
University of Canberra	0
University of South Australia	0
University of Southern Queensland	0
University of the Sunshine Coast	0
TOTAL UNIVERSITIES: 38	**521**
Medical Research Institute	
Ludwig Institute for Cancer Research	70
Garvan Institute of Medical Research	30
Royal North Shore Hospital	22
Walter and Eliza Hall Institute of Medical Research	12
Queensland Institute of Medical Research	8
Peter Mac Callum Cancer Institute	7
Baker Heart Research Institute	6
Howard Florey Institute	3
Victor Chang Cardiac Research Institute	3
Austin Research Institute	2
Macfarlane Burnet Institute for Medical Research and Public Health	2
National Stroke Research Institute	2
Australian Neuromuscular Research Institute	0
Brain Research Institute	0
Centenary Institute of Cancer Medicine & Cell Biology	0
Fremantle Heart Institute	0
Genomic Disorders Research Centre	0
Institute of Dental Research	0
Lions Ear and Hearing Institute	0
Melbourne Health	0
Mental Health Research Institute	0
Menzies School of Health Research	0
Murdoch Childrens Research Institute	0
National Heart Foundation of Australia	0
National Vision Research Institute of Australia	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0

continued

Table B3. continued

	Invention Disclosures
NSW State Cancer Council	0
Prince Henry's Institute of Medical Research	0
Prince of Wales Medical Research Institute	0
Royal Brisbane & Women's Hospital Foundation	0
St Vincent's Institute of Medical Research	0
Telethon Institute for Child Health Research	0
The Heart Research Institute	0
Turning Point Alcohol and Drug Centre	0
Victorian Breast Cancer Research Consortium	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**167**
CSIRO	**21**
Cooperative Research Centre	
MicroTechnology	60
Eye Research and Technology	7
Innovative Wood Manufacturing	3
Molecular Plant Breeding	2
Tropical Plant Protection	2
Asthma Ltd	1
Smart Internet Technology	1
Australian Cotton	0
Australian Petroleum	0
Australian Poultry Pty Ltd	0
Australian Sheep Industry	0
Australian Telecommunications	0
Australian Weed Management	0
Bioproducts	0
Capital Markets CRC Limited	0
Cast Metals Manufacturing	0
Catchment Hydrology	0
Cattle and Beef Quality	0
Cellular Growth Factors	0
Chronic Inflammatory Diseases	0
Clean Power from Lignite	0
Coal in Sustainable Development	0
Coastal Zone, Estuary and Waterway Management	0
Construction Innovation	0
Discovery of Genes for Common Human Diseases	0
DSTC Pty Ltd	0
Freshwater Ecology	0
Functional Communication Surfaces	0
Hydrometallurgy	0
Innovative Dairy Products	0
Interaction Design	0
Landscape Environments & Mineral Exploration	0
Pest Animal Control	0
Plant-based Management of Dryland Salinity	0
Polymers	0
Predictive Mineral Discovery	0
Railway Engineering and Technologies	0
Sugar Industry Innovation through Biotechnology	0
Sustainable Aquaculture of Finfish	0
Sustainable Production Forestry	0
Sustainable Rice Production	0
Sustainable Tourism	0
The Great Barrier Reef World Heritage Area	0
Tropical Rainforest Ecology and Management	0
Tropical Savannas	0
Vaccine Technology	0
Value Added Wheat	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**76**
Other Publicly Funded Research Agencies	
Defence Science and Technology Organisation (DSTO)	45
Australian Nuclear Science and Technology Organisation (ANSTO)	11
Australian Institute of Marine Science (AIMS)	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**56**
TOTAL ALL RESPONDENTS: 124	**841**

Table B4. Patent Applications Filed in Australia and the US for Year 2002 (Ranked by Total Australian and US Patent Applications Filed)

	Total Australian and US Patent Applications Filed (New and Continuations)	New Australian Patent Applications Filed	New US Patent Applications Filed	PCT Applications Filed
University				
Monash University	67	37	14	16
The University of New South Wales	64	40	0	24
The University of Sydney	52	24	12	16
The University of Queensland	49	21	9	24
The University of Melbourne	33	11	0	12
University of Western Sydney	30	30	0	4
Queensland University of Technology	17	10	1	3
The University of Adelaide	17	14	3	9
The University of Newcastle	15	11	4	4
The University of Western Australia	15	9	0	4
The Australian National University	13	11	2	4
Macquarie University	12	9	3	3
The Flinders University of South Australia	10	2	8	1
Curtin University of Technology	9	8	1	9
Swinburne University of Technology	8	7	0	1
University of Wollongong	8	6	1	1
James Cook University	8	3	1	0
La Trobe University	5	4	0	1
University of Tasmania	5	3	0	2
University of Technology, Sydney	4	4	0	0
Griffith University	4	3	0	2
Royal Melbourne Institute of Technology	4	1	0	1
Edith Cowan University	3	3	3	0
The University of New England	3	3	0	0
Southern Cross University	2	2	0	0
Murdoch University	2	1	1	0
University of South Australia	2	1	1	1
Central Queensland University	1	1	0	0
Australian Catholic University	0	0	0	0
Charles Darwin University	0	0	0	0
Charles Sturt University	0	0	0	0
Deakin University	0	0	0	0
The University of Notre Dame Australia	0	0	0	0
University of Ballarat	0	0	0	0
University of Canberra	0	0	0	0
University of Southern Queensland	0	0	0	0
University of the Sunshine Coast	0	0	0	0
Victoria University of Technology	0	0	0	0
TOTAL UNIVERSITIES: 38	**462**	**279**	**64**	**142**
Medical Research Institute				
Garvan Institute of Medical Research	17	7	1	7
Ludwig Institute for Cancer Research	15	2	2	4
Walter and Eliza Hall Institute of Medical Research	12	12	0	9
Austin Research Institute	8	2	0	2
Royal North Shore Hospital	8	2	3	0
Baker Heart Research Institute	6	6	0	0
St Vincent's Institute of Medical Research	6	3	1	2
Peter Mac Callum Cancer Institute	6	2	0	2
Howard Florey Institute	3	3	3	3
Queensland Institute of Medical Research	3	3	0	0
Prince Henry's Institute of Medical Research	2	2	2	2
Murdoch Childrens Research Institute	2	2	0	0
Centenary Institute of Cancer Medicine & Cell Biology	2	0	2	0
Telethon Institute for Child Health Research	2	0	0	0
Australian Neuromuscular Research Institute	1	1	0	0
Genomic Disorders Research Centre	1	1	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	1	1	0	0
Melbourne Health	0	3	0	0
Brain Research Institute	0	0	0	0

continued

Table B4. continued

	Total Australian and US Patent Applications Filed (New and Continuations)	New Australian Patent Applications Filed	New US Patent Applications Filed	PCT Applications Filed
Fremantle Heart Institute	0	0	0	0
Institute of Dental Research	0	0	0	0
Lions Ear and Hearing Institute	0	0	0	0
Mental Health Research Institute	0	0	0	0
Menzies School of Health Research	0	0	0	0
National Heart Foundation of Australia	0	0	0	0
National Stroke Research Institute	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0	0	0
NSW State Cancer Council	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0
The Heart Research Institute	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	3
Victorian Breast Cancer Research Consortium	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**95**	**52**	**14**	**34**
CSIRO	**138**	**108**	**9**	**50**
Cooperative Research Centre				
MicroTechnology	23	23	0	2
Polymers	14	11	1	0
Cellular Growth Factors	10	5	0	4
Eye Research and Technology	7	7	7	7
Cast Metals Manufacturing	3	3	0	0
Discovery of Genes for Common Human Diseases	3	2	1	1
Cattle and Beef Quality	2	2	2	0
Tropical Plant Protection	2	2	1	0
Smart Internet Technology	2	1	0	0
Asthma Ltd	2	0	1	1
Molecular Plant Breeding	2	0	0	0
Sustainable Tourism	2	0	0	1
Bioproducts	1	1	0	0
DSTC Pty Ltd	1	1	0	0
Innovative Wood Manufacturing	1	1	0	0
Sustainable Production Forestry	1	1	0	0
Innovative Dairy Products	1	0	0	1
Australian Cotton	0	0	0	0
Australian Petroleum	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0
Australian Sheep Industry	0	0	0	0
Australian Telecommunications	0	0	0	0
Australian Weed Management	0	0	0	0
Capital Markets CRC Limited	0	0	0	0
Catchment Hydrology	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0
Clean Power from Lignite	0	0	0	0
Coal in Sustainable Development	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0
Construction Innovation	0	0	0	0
Freshwater Ecology	0	0	0	0
Functional Communication Surfaces	0	0	0	0
Hydrometallurgy	0	0	0	0
Interaction Design	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0
Pest Animal Control	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0
Predictive Mineral Discovery	0	0	0	0
Railway Engineering and Technologies	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0
Sustainable Rice Production	0	0	0	0

continued

Table B4. continued

	Total Australian and US Patent Applications Filed (New and Continuations)	New Australian Patent Applications Filed	New US Patent Applications Filed	PCT Applications Filed
The Great Barrier Reef World Heritage Area	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0
Tropical Savannas	0	0	0	0
Vaccine Technology	0	0	0	0
Value Added Wheat	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**77**	**60**	**13**	**17**
Other Publicly Funded Research Agencies				
Defence Science and Technology Organisation (DSTO)	23	12	11	3
Australian Nuclear Science and Technology Organisation (ANSTO)	22	3	1	2
Australian Institute of Marine Science (AIMS)	3	1	1	1
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**48**	**16**	**13**	**6**
TOTAL ALL RESPONDENTS: 124	**820**	**515**	**113**	**249**

Table B5. Patents Issued Worldwide and Australian and US Patents Issued for Year 2002 (Ranked by Patents Issued Worldwide)

	Patents Issued Worldwide	Australian Patents Issued	US Patents Issued
University			
The University of Queensland	31	9	5
The University of Melbourne	26	6	0
The University of Sydney	19	5	6
University of South Australia	6	1	1
Macquarie University	5	2	3
University of Wollongong	5	2	1
Queensland University of Technology	5	2	0
The University of New South Wales	4	4	0
The Australian National University	4	0	3
Edith Cowan University	3	3	3
James Cook University	3	1	1
The University of Western Australia	2	2	2
Southern Cross University	2	2	0
The University of Adelaide	2	2	0
The University of New England	2	2	0
The University of Newcastle	2	1	1
University of Western Sydney	1	1	0
The Flinders University of South Australia	1	0	1
Monash University	0	27	0
Australian Catholic University	0	0	0
Central Queensland University	0	0	0
Charles Darwin University	0	0	0
Charles Sturt University	0	0	0
Curtin University of Technology	0	0	0
Deakin University	0	0	0
Griffith University	0	0	0
La Trobe University	0	0	0
Murdoch University	0	0	0
Royal Melbourne Institute of Technology	0	0	0
Swinburne University of Technology	0	0	0
The University of Notre Dame Australia	0	0	0
University of Ballarat	0	0	0
University of Canberra	0	0	0
University of Southern Queensland	0	0	0
University of Tasmania	0	0	0

continued

Table B5. continued

	Patents Issued Worldwide	Australian Patents Issued	US Patents Issued
University of Technology, Sydney	0	0	0
University of the Sunshine Coast	0	0	0
Victoria University of Technology	0	0	0
TOTAL UNIVERSITIES: 38	**123**	**72**	**27**
Medical Research Institute			
Garvan Institute of Medical Research	4	4	4
Walter and Eliza Hall Institute of Medical Research	3	3	0
Austin Research Institute	3	0	3
St Vincent's Institute of Medical Research	2	0	0
Genomic Disorders Research Centre	1	1	0
Ludwig Institute for Cancer Research	1	1	0
Prince Henry's Institute of Medical Research	1	0	0
Australian Neuromuscular Research Institute	0	0	0
Baker Heart Research Institute	0	0	0
Brain Research Institute	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	0	0	0
Fremantle Heart Institute	0	0	0
Howard Florey Institute	0	0	0
Institute of Dental Research	0	0	0
Lions Ear and Hearing Institute	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	0
Melbourne Health	0	0	0
Mental Health Research Institute	0	0	0
Menzies School of Health Research	0	0	0
Murdoch Childrens Research Institute	0	0	0
National Heart Foundation of Australia	0	0	0
National Stroke Research Institute	0	0	0
National Vision Research Institute of Australia	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0	0
NSW State Cancer Council	0	0	0
Peter Mac Callum Cancer Institute	0	0	0
Prince of Wales Medical Research Institute	0	0	0
Queensland Institute of Medical Research	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0
Royal North Shore Hospital	0	0	0
Telethon Institute for Child Health Research	0	0	0
The Heart Research Institute	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0
Victor Chang Cardiac Research Institute	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**15**	**9**	**7**
CSIRO	**148**	**27**	**24**
Cooperative Research Centre			
Tropical Plant Protection	10	0	0
Eye Research and Technology	6	0	0
Cellular Growth Factors	2	1	1
Bioproducts	2	0	2
Sustainable Tourism	2	0	0
Cattle and Beef Quality	1	1	1
DSTC Pty Ltd	1	1	0
Smart Internet Technology	1	1	0
Sustainable Production Forestry	1	1	0
MicroTechnology	0	23	0
Australian Telecommunications	0	7	5
Asthma Ltd	0	0	0
Australian Cotton	0	0	0
Australian Petroleum	0	0	0
Australian Poultry Pty Ltd	0	0	0
Australian Sheep Industry	0	0	0
Australian Weed Management	0	0	0
Capital Markets CRC Limited	0	0	0

continued

Table B5. continued

	Patents Issued Worldwide	Australian Patents Issued	US Patents Issued
Cast Metals Manufacturing	0	0	0
Catchment Hydrology	0	0	0
Chronic Inflammatory Diseases	0	0	0
Clean Power from Lignite	0	0	0
Coal in Sustainable Development	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0
Construction Innovation	0	0	0
Discovery of Genes for Common Human Diseases	0	0	0
Freshwater Ecology	0	0	0
Functional Communication Surfaces	0	0	0
Hydrometallurgy	0	0	0
Innovative Dairy Products	0	0	0
Innovative Wood Manufacturing	0	0	0
Interaction Design	0	0	0
Landscape Environments & Mineral Exploration	0	0	0
Molecular Plant Breeding	0	0	0
Pest Animal Control	0	0	0
Plant-based Management of Dryland Salinity	0	0	0
Polymers	0	0	0
Predictive Mineral Discovery	0	0	0
Railway Engineering and Technologies	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0
Sustainable Aquaculture of Finfish	0	0	0
Sustainable Rice Production	0	0	0
The Great Barrier Reef World Heritage Area	0	0	0
Tropical Rainforest Ecology and Management	0	0	0
Tropical Savannas	0	0	0
Vaccine Technology	0	0	0
Value Added Wheat	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**26**	**35**	**9**
Other Publicly Funded Research Agencies			
Defence Science and Technology Organisation (DSTO)	4	1	2
Australian Nuclear Science and Technology Organisation (ANSTO)	3	2	1
Australian Institute of Marine Science (AIMS)	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**7**	**3**	**3**
TOTAL ALL RESPONDENTS: 124	**319**	**146**	**70**

Table B6. Legal Fees Expended and Reimbursed for Year 2002 (Ranked by Legal Fees Expended)

	Legal Fees Expended ($)	Legal Fees Reimbursed ($)
University		
The University of Queensland	1,495,888	663,066
The University of New South Wales	1,249,000	310,037
The University of Sydney	983,691	820,986
The University of Melbourne	782,655	312,752
The Australian National University	778,185	302,963
The University of Newcastle	351,688	160,198
Macquarie University	330,000	150,000
Queensland University of Technology	240,661	100,943
The Flinders University of South Australia	239,224	22,067
Monash University	211,000	0
The University of Adelaide	200,000	0
Griffith University	120,940	0
The University of Western Australia	108,385	39,455
Swinburne University of Technology	105,000	0
Southern Cross University	100,000	100,000
University of Wollongong	99,100	15,000
James Cook University	90,622	0
Curtin University of Technology	87,892	93,081
University of Technology, Sydney	76,936	0
Royal Melbourne Institute of Technology	63,284	0
Victoria University of Technology	55,730	0
University of Western Sydney	50,000	0
La Trobe University	49,206	0
University of Tasmania	37,000	0
Murdoch University	20,000	0
Edith Cowan University	15,000	0
The University of New England	10,000	0
University of Canberra	300	0
Charles Sturt University	0	5,000
Australian Catholic University	0	0
Central Queensland University	0	0
Charles Darwin University	0	0
Deakin University	0	0
The University of Notre Dame Australia	0	0
University of Ballarat	0	0
University of South Australia	0	0
University of Southern Queensland	0	0
University of the Sunshine Coast	0	0
TOTAL UNIVERSITIES: 38	**7,951,387**	**3,095,548**
Medical Research Institute		
Ludwig Institute for Cancer Research	487,450	67,652
Walter and Eliza Hall Institute of Medical Research	376,083	40,000
Murdoch Childrens Research Institute	284,368	63,031
Howard Florey Institute	280,000	250,000
Garvan Institute of Medical Research	220,000	30,000
Austin Research Institute	204,000	133,000
Peter Mac Callum Cancer Institute	120,000	0
Macfarlane Burnet Institute for Medical Research and Public Health	73,700	0
Centenary Institute of Cancer Medicine & Cell Biology	71,129	0
Prince Henry's Institute of Medical Research	65,000	0
Telethon Institute for Child Health Research	56,266	0
Royal North Shore Hospital	55,000	0
Queensland Institute of Medical Research	54,000	0
Genomic Disorders Research Centre	26,831	0
St Vincent's Institute of Medical Research	23,907	0
Melbourne Health	20,000	161,636
Baker Heart Research Institute	12,147	0
Victor Chang Cardiac Research Institute	6,500	0
Australian Neuromuscular Research Institute	1,200	0
Brain Research Institute	0	0
Fremantle Heart Institute	0	0
Institute of Dental Research	0	0
Lions Ear and Hearing Institute	0	0

continued

Table B6. continued

	Legal Fees Expended ($)	Legal Fees Reimbursed ($)
Mental Health Research Institute	0	0
Menzies School of Health Research	0	0
National Heart Foundation of Australia	0	0
National Stroke Research Institute	0	0
National Vision Research Institute of Australia	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0
NSW State Cancer Council	0	0
Prince of Wales Medical Research Institute	0	0
Royal Brisbane & Women's Hospital Foundation	0	0
The Heart Research Institute	0	0
Turning Point Alcohol and Drug Centre	0	0
Victorian Breast Cancer Research Consortium	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**2,437,581**	**745,319**
CSIRO	**5,944,096**	**1,539,082**
Cooperative Research Centre		
Eye Research and Technology	240,000	0
Cellular Growth Factors	200,740	0
Polymers	186,000	15,000
Pest Animal Control	113,000	0
Molecular Plant Breeding	100,000	0
Innovative Wood Manufacturing	97,000	0
Tropical Plant Protection	70,320	38,002
Innovative Dairy Products	60,000	0
Clean Power from Lignite	56,793	0
Bioproducts	40,000	0
Australian Telecommunications	35,000	0
MicroTechnology	30,000	0
Asthma Ltd	25,000	0
Cast Metals Manufacturing	21,700	0
Sustainable Tourism	12,000	0
Value Added Wheat	10,000	5,000
Australian Petroleum	5,000	0
Smart Internet Technology	3,000	0
Sustainable Production Forestry	3,000	0
DSTC Pty Ltd	2,781	0
The Great Barrier Reef World Heritage Area	800	0
Australian Cotton	0	0
Australian Poultry Pty Ltd	0	0
Australian Sheep Industry	0	0
Australian Weed Management	0	0
Capital Markets CRC Limited	0	0
Catchment Hydrology	0	0
Cattle and Beef Quality	0	0
Chronic Inflammatory Diseases	0	0
Coal in Sustainable Development	0	0
Coastal Zone, Estuary and Waterway Management	0	0
Construction Innovation	0	0
Discovery of Genes for Common Human Diseases	0	0
Freshwater Ecology	0	0
Functional Communication Surfaces	0	0
Hydrometallurgy	0	0
Interaction Design	0	0
Landscape Environments & Mineral Exploration	0	0
Plant-based Management of Dryland Salinity	0	0
Predictive Mineral Discovery	0	0
Railway Engineering and Technologies	0	0
Sugar Industry Innovation through Biotechnology	0	0
Sustainable Aquaculture of Finfish	0	0
Sustainable Rice Production	0	0
Tropical Rainforest Ecology and Management	0	0
Tropical Savannas	0	0
Vaccine Technology	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**1,312,134**	**58,002**

continued

Table B6. continued

	Legal Fees Expended ($)	Legal Fees Reimbursed ($)
Other Publicly Funded Research Agencies		
Defence Science and Technology Organisation (DSTO)	350,129	15,000
Australian Institute of Marine Science (AIMS)	78,507	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**428,636**	**15,000**
TOTAL ALL RESPONDENTS: 124	**18,073,834**	**5,452,951**

Table B7. Licenses/Options/Assignments (LOAs) Executed: Exclusive and Non-Exclusive for Year 2002 (Ranked by LOAs Executed)

	LOAs Executed	LOAs Executed: Exclusive	LOAs Executed: Non-Exclusive
University			
The University of New South Wales	43	3	40
The University of Melbourne	37	37	0
The University of Sydney	23	11	12
University of Wollongong	22	3	19
Southern Cross University	20	0	20
The University of Queensland	18	15	3
The Australian National University	11	11	0
The University of Adelaide	8	8	0
Royal Melbourne Institute of Technology	6	5	1
The University of Western Australia	5	3	2
Monash University	4	4	0
The University of Newcastle	4	4	0
James Cook University	3	3	0
Swinburne University of Technology	3	3	0
The Fllinders University of South Australia	3	3	0
University of Technology, Sydney	3	3	0
La Trobe University	2	2	0
The University of New England	2	2	0
Victoria University of Technology	2	2	0
Queensland University of Technology	2	1	1
Curtin University of Technology	2	0	2
Macquarie University	2	0	0
Griffith University	0	1	0
Murdoch University	0	1	0
University of South Australia	0	1	0
University of Tasmania	0	1	0
Australian Catholic University	0	0	0
Central Queensland University	0	0	0
Charles Darwin University	0	0	0
Charles Sturt University	0	0	0
Deakin University	0	0	0
Edith Cowan University	0	0	0
The University of Notre Dame Australia	0	0	0
University of Ballarat	0	0	0
University of Canberra	0	0	0
University of Southern Queensland	0	0	0
University of the Sunshine Coast	0	0	0
University of Western Sydney	0	0	0
TOTAL UNIVERSITIES: 38	**225**	**127**	**100**
Medical Research Institute			
Garvan Institute of Medical Research	9	4	5
Peter Mac Callum Cancer Institute	8	8	0
Howard Florey Institute	6	0	0
Walter and Eliza Hall Institute of Medical Research	5	5	0

continued

Table B7. continued

	LOAs Executed	LOAs Executed: Exclusive	LOAs Executed: Non-Exclusive
Queensland Institute of Medical Research	2	2	0
Telethon Institute for Child Health Research	2	2	0
Royal North Shore Hospital	2	1	1
Ludwig Institute for Cancer Research	1	2	14
Baker Heart Research Institute	1	1	0
Macfarlane Burnet Institute for Medical Research and Public Health	1	1	0
Melbourne Health	1	1	0
Prince Henry's Institute of Medical Research	1	0	0
Murdoch Childrens Research Institute	0	1	0
Austin Research Institute	0	0	0
Australian Neuromuscular Research Institute	0	0	0
Brain Research Institute	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	0	0	0
Fremantle Heart Institute	0	0	0
Genomic Disorders Research Centre	0	0	0
Institute of Dental Research	0	0	0
Lions Ear and Hearing Institute	0	0	0
Mental Health Research Institute	0	0	0
Menzies School of Health Research	0	0	0
National Heart Foundation of Australia	0	0	0
National Stroke Research Institute	0	0	0
National Vision Research Institute of Australia	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0	0
NSW State Cancer Council	0	0	0
Prince of Wales Medical Research Institute	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0
St Vincent's Institute of Medical Research	0	0	0
The Heart Research Institute	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0
Victor Chang Cardiac Research Institute	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**39**	**28**	**20**
CSIRO	**188**	**14**	**174**
Cooperative Research Centre			
DSTC Pty Ltd	25	1	24
Cast Metals Manufacturing	7	7	0
Value Added Wheat	3	3	2
Sustainable Tourism	3	3	0
Cattle and Beef Quality	2	2	0
Cellular Growth Factors	2	2	0
MicroTechnology	1	1	0
Discovery of Genes for Common Human Diseases	1	0	1
Australian Cotton	1	0	0
Bioproducts	1	0	0
Innovative Wood Manufacturing	1	0	0
Sustainable Production Forestry	1	0	0
Asthma Ltd	0	0	0
Australian Petroleum	0	0	0
Australian Poultry Pty Ltd	0	0	0
Australian Sheep Industry	0	0	0
Australian Telecommunications	0	0	0
Australian Weed Management	0	0	0
Capital Markets CRC Limited	0	0	0
Catchment Hydrology	0	0	0
Chronic Inflammatory Diseases	0	0	0
Clean Power from Lignite	0	0	0
Coal in Sustainable Development	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0
Construction Innovation	0	0	0
Eye Research and Technology	0	0	0
Freshwater Ecology	0	0	0
Functional Communication Surfaces	0	0	0

continued

Table B7. continued

	LOAs Executed	LOAs Executed: Exclusive	LOAs Executed: Non-Exclusive
Hydrometallurgy	0	0	0
Innovative Dairy Products	0	0	0
Interaction Design	0	0	0
Landscape Environments & Mineral Exploration	0	0	0
Molecular Plant Breeding	0	0	0
Pest Animal Control	0	0	0
Plant-based Management of Dryland Salinity	0	0	0
Polymers	0	0	0
Predictive Mineral Discovery	0	0	0
Railway Engineering and Technologies	0	0	0
Smart Internet Technology	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0
Sustainable Aquaculture of Finfish	0	0	0
Sustainable Rice Production	0	0	0
The Great Barrier Reef World Heritage Area	0	0	0
Tropical Plant Protection	0	0	0
Tropical Rainforest Ecology and Management	0	0	0
Tropical Savannas	0	0	0
Vaccine Technology	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**48**	**19**	**27**
Other Publicly Funded Research Agencies			
Defence Science and Technology Organisation (DSTO)	7	2	5
Australian Institute of Marine Science (AIMS)	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**7**	**2**	**5**
TOTAL ALL RESPONDENTS: 124	**507**	**190**	**326**

Table B8. Licences/Options/Assignments (LOAs) Executed: To Start-up, Small, Medium and Large Companies for Year 2002 (Ranked by LOAs Executed)

	LOAs Executed	LOAs Executed: To Start-Up Companies	LOAs Executed: To Small Companies	LOAs Executed: To Medium Companies	LOAs Executed: To Large Companies
University					
The University of New South Wales	43	0	0	10	33
The University of Melbourne	37	2	17	0	18
The University of Sydney	23	4	6	5	8
University of Wollongong	22	2	2	11	7
Southern Cross University	20	0	0	0	20
The University of Queensland	18	9	2	4	3
The Australian National University	11	3	2	2	4
The University of Adelaide	8	1	0	7	0
Royal Melbourne Institute of Technology	6	0	3	1	2
The University of Western Australia	5	0	3	0	2
Monash University	4	1	2	1	0
The University of Newcastle	4	0	0	2	2
Swinburne University of Technology	3	3	0	0	0
James Cook University	3	2	0	0	1
The Flinders University of South Australia	3	2	0	1	0
University of Technology, Sydney	3	1	1	0	1
Victoria University of Technology	2	2	0	0	0
The University of New England	2	0	2	0	0
Curtin University of Technology	2	0	1	0	1
La Trobe University	2	0	1	0	1
Macquarie University	2	0	0	0	0
Queensland University of Technology	2	0	0	0	2

continued

Table B8. continued

	LOAs Executed	LOAs Executed: To Start-Up Companies	LOAs Executed: To Small Companies	LOAs Executed: To Medium Companies	LOAs Executed: To Large Companies
Griffith University	0	1	0	0	0
Murdoch University	0	1	0	0	0
University of South Australia	0	1	0	0	0
University of Tasmania	0	0	0	1	0
Australian Catholic University	0	0	0	0	0
Central Queensland University	0	0	0	0	0
Charles Darwin University	0	0	0	0	0
Charles Sturt University	0	0	0	0	0
Deakin University	0	0	0	0	0
Edith Cowan University	0	0	0	0	0
The University of Notre Dame Australia	0	0	0	0	0
University of Ballarat	0	0	0	0	0
University of Canberra	0	0	0	0	0
University of Southern Queensland	0	0	0	0	0
University of the Sunshine Coast	0	0	0	0	0
University of Western Sydney	0	0	0	0	0
TOTAL UNIVERSITIES: 38	**225**	**35**	**42**	**45**	**105**
Medical Research Institute					
Garvan Institute of Medical Research	9	2	0	2	5
Peter Mac Callum Cancer Institute	8	1	0	1	6
Howard Florey Institute	6	0	0	0	0
Walter and Eliza Hall Institute of Medical Research	5	1	1	1	2
Telethon Institute for Child Health Research	2	1	0	0	1
Queensland Institute of Medical Research	2	0	0	2	0
Royal North Shore Hospital	2	0	0	2	0
Baker Heart Research Institute	1	1	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	1	1	0	0	0
Ludwig Institute for Cancer Research	1	0	0	4	12
Melbourne Health	1	0	0	0	1
Prince Henry's Institute of Medical Research	1	0	0	0	0
Murdoch Childrens Research Institute	0	1	0	0	0
Austin Research Institute	0	0	0	0	0
Australian Neuromuscular Research Institute	0	0	0	0	0
Brain Research Institute	0	0	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	0	0	0	0	0
Fremantle Heart Institute	0	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0	0
Institute of Dental Research	0	0	0	0	0
Lions Ear and Hearing Institute	0	0	0	0	0
Mental Health Research Institute	0	0	0	0	0
Menzies School of Health Research	0	0	0	0	0
National Heart Foundation of Australia	0	0	0	0	0
National Stroke Research Institute	0	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0	0	0	0
NSW State Cancer Council	0	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0	0
St Vincent's Institute of Medical Research	0	0	0	0	0
The Heart Research Institute	0	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**39**	**8**	**1**	**12**	**27**
CSIRO	**188**	**0**	**58**	**52**	**78**
Cooperative Research Centre					
DSTC Pty Ltd	25	1	4	7	13
Cast Metals Manufacturing	7	1	0	2	4
Value Added Wheat	3	0	4	1	0
Sustainable Tourism	3	0	3	0	0
Cattle and Beef Quality	2	1	0	0	1

continued

Table B8. continued

	LOAs Executed	LOAs Executed: To Start-Up Companies	LOAs Executed: To Small Companies	LOAs Executed: To Medium Companies	LOAs Executed: To Large Companies
Cellular Growth Factors	2	0	0	0	2
MicroTechnology	1	1	0	0	0
Australian Cotton	1	0	0	0	0
Bioproducts	1	0	0	0	0
Discovery of Genes for Common Human Diseases	1	0	0	1	0
Innovative Wood Manufacturing	1	0	0	0	0
Sustainable Production Forestry	1	0	0	0	0
Asthma Ltd	0	0	0	0	0
Australian Petroleum	0	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0	0
Australian Sheep Industry	0	0	0	0	0
Australian Telecommunications	0	0	0	0	0
Australian Weed Management	0	0	0	0	0
Capital Markets CRC Limited	0	0	0	0	0
Catchment Hydrology	0	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0	0
Clean Power from Lignite	0	0	0	0	0
Coal in Sustainable Development	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0	0
Construction Innovation	0	0	0	0	0
Eye Research and Technology	0	0	0	0	0
Freshwater Ecology	0	0	0	0	0
Functional Communication Surfaces	0	0	0	0	0
Hydrometallurgy	0	0	0	0	0
Innovative Dairy Products	0	0	0	0	0
Interaction Design	0	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0	0
Molecular Plant Breeding	0	0	0	0	0
Pest Animal Control	0	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0	0
Polymers	0	0	0	0	0
Predictive Mineral Discovery	0	0	0	0	0
Railway Engineering and Technologies	0	0	0	0	0
Smart Internet Technology	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0	0
Sustainable Rice Production	0	0	0	0	0
The Great Barrier Reef World Heritage Area	0	0	0	0	0
Tropical Plant Protection	0	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0	0
Tropical Savannas	0	0	0	0	0
Vaccine Technology	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**48**	**4**	**11**	**11**	**20**
Other Publicly Funded Research Agencies					
Defence Science and Technology Organisation (DSTO)	7	0	3	2	2
Australian Institute of Marine Science (AIMS)	0	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**7**	**0**	**3**	**2**	**2**
TOTAL ALL RESPONDENTS: 124	**507**	**47**	**115**	**122**	**232**

Table B9. Licences/Options/Assignments (LOAs) Executed: Exclusive and Non-Exclusive; To Start-up, Small, Medium and Large Companies for Year 2002 (Ranked by LOAs Executed)

	LOAs Executed	LOAs Executed: Start-Up Companies	LOAs Executed Start-Up Companies: Exclusive	LOAs Executed Start-Up Companies: Non-Exclusive	LOAs Executed Small Companies	LOAs Executed Small Companies: Exclusive	LOAs Executed Small Companies: Non-Exlcusive	LOAs Executed Medium Companies	LOAs Executed Medium Companies: Exclusive	LOAs Executed Medium Companies: Non-Exclusive	LOAs Executed Large Companies	LOAs Executed Large Companies: Exclusive	LOAs Executed Large Companies: Non-Exclusive
University													
The University of New South Wales	43	0	0	0	0	0	0	10	0	10	33	3	30
The University of Melbourne	37	2	2	0	17	17	0	0	0	0	18	18	0
The University of Sydney	23	4	4	0	6	3	3	5	1	4	8	3	5
University of Wollongong	22	2	0	2	2	2	0	11	1	10	7	0	7
Southern Cross University	20	0	0	0	0	0	0	0	0	0	20	0	20
The University of Queensland	18	9	9	0	2	2	0	4	4	0	3	0	3
The Australian National University	11	3	3	0	2	2	0	2	2	0	4	4	0
The University of Adelaide	8	1	1	0	0	0	0	7	7	0	0	0	0
Royal Melbourne Institute of Technology	6	0	0	0	3	2	1	1	1	0	2	2	0
The University of Western Australia	5	0	0	0	3	3	0	0	0	0	2	0	2
Monash University	4	1	1	0	2	2	0	1	1	0	0	0	0
The University of Newcastle	4	0	0	0	0	0	0	2	2	0	2	2	0
Swinburne University of Technology	3	3	3	0	0	0	0	0	0	0	0	0	0
James Cook University	3	2	2	0	0	0	0	0	0	0	1	1	0
The Flinders University of South Australia	3	2	2	0	0	0	0	1	1	0	0	0	0
University of Technology, Sydney	3	1	1	0	1	1	0	0	0	0	1	1	0
Victoria University of Technology	2	2	2	0	0	0	0	0	0	0	0	0	0
Curtin University of Technology	2	0	0	0	1	0	1	0	0	0	1	0	1
La Trobe University	2	0	0	0	1	1	0	0	0	0	1	1	0
Macquarie University	2	0	0	0	0	0	0	0	0	0	0	0	0
Queensland University of Technology	2	0	0	0	0	0	0	0	0	0	2	1	1
The University of New England	2	0	0	0	2	2	0	0	0	0	0	0	0
Griffith University	0	1	1	0	0	0	0	0	0	0	0	0	0
Murdoch University	0	1	1	0	0	0	0	0	0	0	0	0	0
University of South Australia	0	1	1	0	0	0	0	0	0	0	0	0	0
Australian Catholic University	0	0	0	0	0	0	0	0	0	0	0	0	0
Central Queensland University	0	0	0	0	0	0	0	0	0	0	0	0	0
Charles Darwin University	0	0	0	0	0	0	0	0	0	0	0	0	0
Charles Sturt University	0	0	0	0	0	0	0	0	0	0	0	0	0
Deakin University	0	0	0	0	0	0	0	0	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0	0	0	0	0	0	0	0

continued

Table B9. continued

	LOAs Executed	LOAs Executed: Start-Up Companies	LOAs Executed Start-Up Companies: Exclusive	LOAs Executed Start-Up Companies: Non-Exclusive	LOAs Executed Small Companies	LOAs Executed Small Companies: Exclusive	LOAs Executed Small Companies: Non-Exlcusive	LOAs Executed Medium Companies	LOAs Executed Medium Companies: Exclusive	LOAs Executed Medium Companies: Non-Exclusive	LOAs Executed Large Companies	LOAs Executed Large Companies: Exclusive	LOAs Executed Large Companies: Non-Exclusive
The University of Notre Dame Australia	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Ballarat	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Canberra	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Southern Queensland	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Tasmania	0	0	0	0	0	0	0	1	1	0	0	0	0
University of the Sunshine Coast	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Western Sydney	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL UNIVERSITIES: 38	**225**	**35**	**33**	**2**	**42**	**37**	**5**	**45**	**21**	**24**	**105**	**36**	**69**
Medical Research Institute													
Garvan Institute of Medical Research	9	2	2	0	0	0	0	2	0	2	5	2	3
Peter Mac Callum Cancer Institute	8	1	1	0	0	0	0	1	1	0	6	6	0
Howard Florey Institute	6	0	0	0	0	0	0	0	0	0	0	0	0
Walter and Eliza Hall Institute of Medical Research	5	1	1	0	1	1	0	1	1	0	2	2	0
Telethon Institute for Child Health Research	2	1	1	0	0	0	0	0	0	0	1	1	0
Queensland Institute of Medical Research	2	0	0	0	0	0	0	2	2	0	0	0	0
Royal North Shore Hospital	2	0	0	0	0	0	0	2	1	1	0	0	0
Baker Heart Research Institute	1	1	1	0	0	0	0	0	0	0	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	1	1	1	0	0	0	0	0	0	0	0	0	0
Ludwig Institute for Cancer Research	1	0	0	0	0	0	0	4	2	2	12	0	12
Melbourne Health	1	0	0	0	0	0	0	0	0	0	1	1	0
Murdoch Childrens Research Institute	0	1	1	0	0	0	0	0	0	0	0	0	0
Austin Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Neuromuscular Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Brain Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	0	0	0	0	0	0	0	0	0	0	0	0	0
Fremantle Heart Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0	0	0	0	0	0	0	0	0	0
Institute of Dental Research	0	0	0	0	0	0	0	0	0	0	0	0	0
Lions Ear and Hearing Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Mental Health Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Menzies School of Health Research	0	0	0	0	0	0	0	0	0	0	0	0	0
National Heart Foundation of Australia	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

continued

Table B9. continued

	LOAs Executed	LOAs Executed: Start-Up Companies	LOAs Executed Start-Up Companies: Exclusive	LOAs Executed Start-Up Companies: Non-Exclusive	LOAs Executed Small Companies	LOAs Executed Small Companies: Exclusive	LOAs Executed Small Companies: Non-Exlcusive	LOAs Executed Medium Companies	LOAs Executed Medium Companies: Exclusive	LOAs Executed Medium Companies: Non-Exclusive	LOAs Executed Large Companies	LOAs Executed Large Companies: Exclusive	LOAs Executed Large Companies: Non-Exclusive
National Stroke Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0	0	0	0	0	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0	0	0	0	0	0	0	0	0	0	0	0
NSW State Cancer Council	0	0	0	0	0	0	0	0	0	0	0	0	0
Prince Henry's Institute of Medical Research	1	0	0	0	0	0	0	0	0	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0	0	0	0	0	0	0	0	0	0
St Vincent's Institute of Medical Research	0	0	0	0	0	0	0	0	0	0	0	0	0
The Heart Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0	0	0	0	0	0	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**39**	**8**	**8**	**0**	**1**	**1**	**0**	**12**	**7**	**5**	**27**	**12**	**15**
CSIRO	**188**	**0**	**0**	**0**	**58**	**3**	**55**	**52**	**5**	**47**	**78**	**6**	**72**
Cooperative Research Centre													
DSTC Pty Ltd	25	1	1	0	4	0	4	7	0	7	13	0	13
Cast Metals Manufacturing	7	1	1	0	0	0	0	2	2	0	4	4	0
Sustainable Tourism	3	0	0	0	3	3	0	0	0	0	0	0	0
Value Added Wheat	3	0	0	0	4	2	2	1	1	0	0	0	0
Cattle and Beef Quality	2	1	1	0	0	0	0	0	0	0	1	1	0
Cellular Growth Factors	2	0	0	0	0	0	0	0	0	0	2	2	0
MicroTechnology	1	1	1	0	0	0	0	0	0	0	0	0	0
Australian Cotton	1	0	0	0	0	0	0	0	0	0	0	0	0
Bioproducts	1	0	0	0	0	0	0	0	0	0	0	0	0
Discovery of Genes for Common Human Diseases	1	0	0	0	0	0	0	1	0	1	0	0	0
Innovative Wood Manufacturing	1	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Production Forestry	1	0	0	0	0	0	0	0	0	0	0	0	0
Asthma Ltd	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Petroleum	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Sheep Industry	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Telecommunications	0	0	0	0	0	0	0	0	0	0	0	0	0

continued

Table B9. continued

	LOAs Executed	LOAs Executed: Start-Up Companies	LOAs Executed Start-Up Companies: Exclusive	LOAs Executed Start-Up Companies: Non-Exclusive	LOAs Executed Small Companies	LOAs Executed Small Companies: Exclusive	LOAs Executed Small Companies: Non-Exlcusive	LOAs Executed Medium Companies	LOAs Executed Medium Companies: Exclusive	LOAs Executed Medium Companies: Non-Exclusive	LOAs Executed Large Companies	LOAs Executed Large Companies: Exclusive	LOAs Executed Large Companies: Non-Exclusive
Australian Weed Management	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital Markets CRC Limited	0	0	0	0	0	0	0	0	0	0	0	0	0
Catchment Hydrology	0	0	0	0	0	0	0	0	0	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0	0	0	0	0	0	0	0	0	0
Clean Power from Lignite	0	0	0	0	0	0	0	0	0	0	0	0	0
Coal in Sustainable Development	0	0	0	0	0	0	0	0	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction Innovation	0	0	0	0	0	0	0	0	0	0	0	0	0
Eye Research and Technology	0	0	0	0	0	0	0	0	0	0	0	0	0
Freshwater Ecology	0	0	0	0	0	0	0	0	0	0	0	0	0
Functional Communication Surfaces	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrometallurgy	0	0	0	0	0	0	0	0	0	0	0	0	0
Innovative Dairy Products	0	0	0	0	0	0	0	0	0	0	0	0	0
Interaction Design	0	0	0	0	0	0	0	0	0	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0	0	0	0	0	0	0	0	0	0
Molecular Plant Breeding	0	0	0	0	0	0	0	0	0	0	0	0	0
Pest Animal Control	0	0	0	0	0	0	0	0	0	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0	0	0	0	0	0	0	0	0	0
Polymers	0	0	0	0	0	0	0	0	0	0	0	0	0
Predictive Mineral Discovery	0	0	0	0	0	0	0	0	0	0	0	0	0
Railway Engineering and Technologies	0	0	0	0	0	0	0	0	0	0	0	0	0
Smart Internet Technology	0	0	0	0	0	0	0	0	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Rice Production	0	0	0	0	0	0	0	0	0	0	0	0	0
The Great Barrier Reef World Heritage Area	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Plant Protection	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Savannas	0	0	0	0	0	0	0	0	0	0	0	0	0
Vaccine Technology	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**48**	**4**	**4**	**0**	**11**	**5**	**6**	**11**	**3**	**8**	**20**	**7**	**13**

continued

Table B9. continued

	LOAs Executed	LOAs Executed: Start-Up Companies	LOAs Executed Start-Up Companies: Exclusive	LOAs Executed Start-Up Companies: Non-Exclusive	LOAs Executed Small Companies	LOAs Executed Small Companies: Exclusive	LOAs Executed Small Companies: Non-Exlcusive	LOAs Executed Medium Companies	LOAs Executed Medium Companies: Exclusive	LOAs Executed Medium Companies: Non-Exclusive	LOAs Executed Large Companies	LOAs Executed Large Companies: Exclusive	LOAs Executed Large Companies: Non-Exclusive
Other Publicly Funded Research Agencies													
Defence Science and Technology Organisation (DSTO)	7	0	0	0	3	1	2	2	1	1	2	0	2
Australian Institute of Marine Science (AIMS)	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**7**	**0**	**0**	**0**	**3**	**1**	**2**	**2**	**1**	**1**	**2**	**0**	**2**
TOTAL ALL RESPONDENTS: 124	**507**	**47**	**45**	**2**	**115**	**47**	**68**	**122**	**37**	**85**	**232**	**61**	**171**

Table B10. Research Funding Related to Licences/Options/Assignments (LOAs) for Year 2002 (Ranked by Research Funding Related to LOAs)

	Research Funding Related to LOAs ($)
University	
The University of Melbourne	13,300,000
Monash University	6,100,000
The Australian National University	5,515,499
The University of New South Wales	5,500,000
University of Wollongong	4,200,000
The University of Queensland	2,527,000
The University of Sydney	2,512,298
The University of Adelaide	1,800,000
Victoria University of Technology	918,000
The University of Newcastle	805,387
Murdoch University	768,000
The University of Western Australia	626,000
University of Canberra	500,000
La Trobe University	490,017
James Cook University	402,259
Swinburne University of Technology	110,000
The Flinders University of South Australia	90,000
Central Queensland University	20,000
University of Technology, Sydney	6,436
Australian Catholic University	0
Charles Darwin University	0
Charles Sturt University	0
Curtin University of Technology	0
Deakin University	0
Edith Cowan University	0
Griffith University	0
Macquarie University	0
Queensland University of Technology	0
Royal Melbourne Institute of Technology	0
Southern Cross University	0
The University of New England	0
The University of Notre Dame Australia	0
University of Ballarat	0
University of South Australia	0
University of Southern Queensland	0
University of Tasmania	0
University of the Sunshine Coast	0
University of Western Sydney	0
TOTAL UNIVERSITIES: 38	**46,190,896**
Medical Research Institute	
Austin Research Institute	3,168,000
Murdoch Childrens Research Institute	1,712,352
Telethon Institute for Child Health Research	1,586,000
Walter and Eliza Hall Institute of Medical Research	1,582,904
Garvan Institute of Medical Research	1,200,000
Queensland Institute of Medical Research	377,000
Macfarlane Burnet Institute for Medical Research and Public Health	219,787
Peter Mac Callum Cancer Institute	185,000
Melbourne Health	75,000
Ludwig Institute for Cancer Research	16,000
Lions Ear and Hearing Institute	10,000
Australian Neuromuscular Research Institute	0
Baker Heart Research Institute	0
Brain Research Institute	0
Centenary Institute of Cancer Medicine & Cell Biology	0
Fremantle Heart Institute	0
Genomic Disorders Research Centre	0
Howard Florey Institute	0
Institute of Dental Research	0
Mental Health Research Institute	0
Menzies School of Health Research	0
National Heart Foundation of Australia	0

continued

Table B10. continued

	Research Funding Related to LOAs ($)
National Stroke Research Institute	0
National Vision Research Institute of Australia	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0
NSW State Cancer Council	0
Prince Henry's Institute of Medical Research	0
Prince of Wales Medical Research Institute	0
Royal Brisbane & Women's Hospital Foundation	0
Royal North Shore Hospital	0
St Vincent's Institute of Medical Research	0
The Heart Research Institute	0
Turning Point Alcohol and Drug Centre	0
Victor Chang Cardiac Research Institute	0
Victorian Breast Cancer Research Consortium	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**10,132,043**
CSIRO	**14,156,279**
COOPERATIVE RESEARCH CENTRE	
Tropical Plant Protection	1,400,000
Cast Metals Manufacturing	1,239,000
Cellular Growth Factors	892,000
Discovery of Genes for Common Human Diseases	630,000
DSTC Pty Ltd	593,145
Asthma Ltd	0
Australian Cotton	0
Australian Petroleum	0
Australian Poultry Pty Ltd	0
Australian Sheep Industry	0
Australian Telecommunications	0
Australian Weed Management	0
Bioproducts	0
Capital Markets CRC Limited	0
Catchment Hydrology	0
Cattle and Beef Quality	0
Chronic Inflammatory Diseases	0
Clean Power from Lignite	0
Coal in Sustainable Development	0
Coastal Zone, Estuary and Waterway Management	0
Construction Innovation	0
Eye Research and Technology	0
Freshwater Ecology	0
Functional Communication Surfaces	0
Hydrometallurgy	0
Innovative Dairy Products	0
Innovative Wood Manufacturing	0
Interaction Design	0
Landscape Environments & Mineral Exploration	0
MicroTechnology	0
Molecular Plant Breeding	0
Pest Animal Control	0
Plant-based Management of Dryland Salinity	0
Polymers	0
Predictive Mineral Discovery	0
Railway Engineering and Technologies	0
Smart Internet Technology	0
Sugar Industry Innovation through Biotechnology	0
Sustainable Aquaculture of Finfish	0
Sustainable Production Forestry	0
Sustainable Rice Production	0
Sustainable Tourism	0
The Great Barrier Reef World Heritage Area	0
Tropical Rainforest Ecology and Management	0
Tropical Savannas	0
Vaccine Technology	0
Value Added Wheat	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**4,754,145**

continued

Table B10. continued

	Research Funding Related to LOAs ($)
Other Publicly Funded Research Agencies	
Defence Science and Technology Organisation (DSTO)	994,000
Australian Institute of Marine Science (AIMS)	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**994,000**
TOTAL ALL RESPONDENTS: 124	**76,227,363**

Table B11. Licence Income Information for Year 2002 (Ranked By Gross LOA Income)

	Gross LOA Income ($)	LOA Income Paid to Other Institutions ($)	Adjusted Gross LOA Income ($)	Number of LOAs Yielding Income
University				
The University of Queensland	27,927,009	0	27,927,009	26
The University of New England	6,019,698	200,000	5,819,698	62
The University of Melbourne	4,125,115	395,955	3,729,160	12
The University of New South Wales	2,175,352	1,309,000	866,352	40
University of Wollongong	1,649,700	0	1,649,700	2
The University of Sydney	1,552,114	38,154	1,513,960	34
Macquarie University	1,092,000	0	1,092,000	12
The University of Adelaide	872,403	0	872,403	46
The Australian National University	450,607	0	450,607	7
Royal Melbourne Institute of Technology	433,186	0	433,186	8
University of South Australia	358,092	0	358,092	0
Queensland University of Technology	347,016	0	347,016	8
James Cook University	236,547	0	236,547	4
The Flinders University of South Australia	236,281	0	236,281	9
Murdoch University	234,000	0	234,000	1
University of Tasmania	191,500	0	191,500	1
The University of Newcastle	170,000	6,000	164,000	3
The University of Western Australia	150,233	0	150,233	8
Curtin University of Technology	135,459	0	135,459	4
Swinburne University of Technology	132,775	0	132,775	5
Central Queensland University	20,000	0	20,000	1
University of Technology, Sydney	6,436	0	6,436	2
University of Western Sydney	5,000	0	5,000	1
Victoria University of Technology	4,583	0	4,583	1
Australian Catholic University	0	0	0	0
Charles Darwin University	0	0	0	0
Charles Sturt University	0	0	0	0
Deakin University	0	0	0	0
Edith Cowan University	0	0	0	0
Griffith University	0	0	0	0
La Trobe University	0	0	0	0
Monash University	0	0	0	0
Southern Cross University	0	0	0	0
The University of Notre Dame Australia	0	0	0	0
University of Ballarat	0	0	0	0
University of Canberra	0	0	0	0
University of Southern Queensland	0	0	0	0
University of the Sunshine Coast	0	0	0	0
TOTAL UNIVERSITIES: 38	**48,525,106**	**1,949,109**	**46,575,997**	**297**
Medical Research Institute				
Ludwig Institute for Cancer Research	6,844,621	3,306,476	3,538,145	14
Walter and Eliza Hall Institute of Medical Research	4,421,910	0	4,421,910	8
Austin Research Institute	3,168,000	0	3,168,000	5
Garvan Institute of Medical Research	1,863,000	0	1,863,000	12
Murdoch Childrens Research Institute	1,712,352	0	1,712,352	2

continued

Table B11. continued

	Gross LOA Income ($)	LOA Income Paid to Other Institutions ($)	Adjusted Gross LOA Income ($)	Number of LOAs Yielding Income
Telethon Institute for Child Health Research	808,000	0	808,000	2
Howard Florey Institute	550,000	0	550,000	6
Macfarlane Burnet Institute for Medical Research and Public Health	219,787	0	219,787	1
Peter Mac Callum Cancer Institute	185,000	0	185,000	2
Melbourne Health	164,558	0	164,558	1
Queensland Institute of Medical Research	122,000	0	122,000	2
Royal North Shore Hospital	78,000	0	78,000	2
Prince Henry's Institute of Medical Research	29,051	0	29,051	1
St Vincent's Institute of Medical Research	6,371	0	6,371	2
Centenary Institute of Cancer Medicine & Cell Biology	400	0	400	1
Australian Neuromuscular Research Institute	0	0	0	0
Baker Heart Research Institute	0	0	0	0
Brain Research Institute	0	0	0	0
Fremantle Heart Institute	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0
Institute of Dental Research	0	0	0	0
Lions Ear and Hearing Institute	0	0	0	0
Mental Health Research Institute	0	0	0	0
Menzies School of Health Research	0	0	0	0
National Heart Foundation of Australia	0	0	0	0
National Stroke Research Institute	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0	0	0
NSW State Cancer Council	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0
The Heart Research Institute	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**20,173,050**	**3,306,476**	**16,866,574**	**61**
CSIRO	**12,109,635**	**1,906,442**	**10,203,193**	**279**
Cooperative Research Centre				
Eye Research and Technology	2,215,000	0	2,215,000	1
Discovery of Genes for Common Human Diseases	630,000	0	630,000	3
DSTC Pty Ltd	593,145	0	593,145	24
Innovative Wood Manufacturing	170,000	0	170,000	1
Cast Metals Manufacturing	100,000	0	100,000	1
Value Added Wheat	55,000	0	55,000	1
Polymers	25,000	0	25,000	1
Asthma Ltd	0	0	0	0
Australian Cotton	0	0	0	0
Australian Petroleum	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0
Australian Sheep Industry	0	0	0	0
Australian Telecommunications	0	0	0	0
Australian Weed Management	0	0	0	0
Bioproducts	0	0	0	0
Capital Markets CRC Limited	0	0	0	0
Catchment Hydrology	0	0	0	0
Cattle and Beef Quality	0	0	0	0
Cellular Growth Factors	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0
Clean Power from Lignite	0	0	0	0
Coal in Sustainable Development	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0
Construction Innovation	0	0	0	0
Freshwater Ecology	0	0	0	0
Functional Communication Surfaces	0	0	0	0
Hydrometallurgy	0	0	0	0
Innovative Dairy Products	0	0	0	0
Interaction Design	0	0	0	0

continued

Table B11. continued

	Gross LOA Income ($)	LOA Income Paid to Other Institutions ($)	Adjusted Gross LOA Income Received ($)	Number of LOAs Yielding Income
Landscape Environments & Mineral Exploration	0	0	0	0
MicroTechnology	0	0	0	0
Molecular Plant Breeding	0	0	0	0
Pest Animal Control	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0
Predictive Mineral Discovery	0	0	0	0
Railway Engineering and Technologies	0	0	0	0
Smart Internet Technology	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0
Sustainable Production Forestry	0	0	0	0
Sustainable Rice Production	0	0	0	0
Sustainable Tourism	0	0	0	0
The Great Barrier Reef World Heritage Area	0	0	0	0
Tropical Plant Protection	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0
Tropical Savannas	0	0	0	0
Vaccine Technology	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**3,788,145**	**0**	**3,788,145**	**32**
Other Publicly Funded Research Agencies				
Defence Science and Technology Organisation (DSTO)	994,000	0	994,000	6
Australian Institute of Marine Science (AIMS)	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**994,000**	**0**	**994,000**	**6**
TOTAL ALL RESPONDENTS: 124	**85,589,936**	**7,162,027**	**78,427,909**	**675**

Table B12. Licence Income by Income Type: Running Royalties, Cashed-in Equity and All Other Types for Year 2002 (Ranked by Gross LOA Income)

	Gross LOA Income ($)	Number of LOAs Yielding Income	Gross LOA Income: Running Royalties ($)	Number of LOAs Yielding Running Royalties	Gross LOA Income: Cashed-In Equity ($)	Number of LOAs Yielding Cashed-In Equity	Gross LOA Income: All Other Types ($)	Number of LOAs Yielding All Other Types
University								
The University of Queensland	27,927,009	26	2,199,101	11	50,000	1	25,677,908	14
The University of New England	6,019,698	62	119,698	2	0	0	5,900,000	60
The University of Melbourne	4,125,115	12	4,125,115	12	0	0	0	0
The University of New South Wales	2,175,352	40	1,666,481	22	0	0	503,871	18
University of Wollongong	1,649,700	2	24,700	2	0	0	1,625,000	1
The University of Sydney	1,552,114	34	975,244	21	534,150	2	42,720	11
Macquarie University	1,092,000	12	1,092,000	12	0	0	0	0
The University of Adelaide	872,403	46	872,403	46	0	0	0	0
The Australian National University	450,607	7	434,421	5	0	0	16,185	2
Royal Melbourne Institute of Technology	433,186	8	0	0	0	0	433,186	8
University of South Australia	358,092	0	358,092	12	0	0	0	0
Queensland University of Technology	347,016	8	87,630	7	0	0	259,386	1
James Cook University	236,547	4	10,547	1	0	0	226,000	3
The Flinders University of South Australia	236,281	9	52,645	7	0	0	183,636	2
Murdoch University	234,000	1	0	0	0	0	234,000	1
University of Tasmania	191,500	1	191,500	1	0	0	0	0
The University of Newcastle	170,000	3	170,000	3	0	0	0	0
The University of Western Australia	150,233	8	73,852	4	0	0	76,381	4
Curtin University of Technology	135,459	4	37,459	3	98,000	1	0	0
Swinburne University of Technology	132,775	5	132,775	5	0	0	0	0
Central Queensland University	20,000	1	20,000	1	0	0	0	0
University of Technology, Sydney	6,436	2	6,436	2	0	0	0	0
University of Western Sydney	5,000	1	5,000	1	0	0	0	0
Victoria University of Technology	4,583	1	4,583	1	0	0	0	0
Australian Catholic University	0	0	0	0	0	0	0	0
Charles Darwin University	0	0	0	0	0	0	0	0
Charles Sturt University	0	0	0	0	0	0	0	0
Deakin University	0	0	0	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0	0	0
Griffith University	0	0	0	0	0	0	0	0
La Trobe University	0	0	0	0	0	0	0	0
Monash University	0	0	0	0	0	0	0	0
Southern Cross University	0	0	0	0	0	0	0	0
The University of Notre Dame Australia	0	0	0	0	0	0	0	0

continued

Table B12. continued

	Gross LOA Income ($)	Number of LOAs Yielding Income	Gross LOA Income: Running Royalties ($)	Number of LOAs Yielding Running Royalties	Gross LOA Income: Cashed-In Equity ($)	Number of LOAs Yielding Cashed-In Equity	Gross LOA Income: All Other Types ($)	Number of LOAs Yielding All Other Types
University of Ballarat	0	0	0	0	0	0	0	0
University of Canberra	0	0	0	0	0	0	0	0
University of Southern Queensland	0	0	0	0	0	0	0	0
University of the Sunshine Coast	0	0	0	0	0	0	0	0
TOTAL UNIVERSITIES: 38	**48,525,106**	**297**	**12,659,682**	**181**	**682,150**	**4**	**35,178,273**	**125**
Medical Research Institute								
Ludwig Institute for Cancer Research	6,844,621	14	6,844,621	14	0	0	0	0
Walter and Eliza Hall Institute of Medical Research	4,421,910	8	4,421,910	8	0	0	0	0
Austin Research Institute	3,168,000	5	0	0	3,168,000	5	0	0
Garvan Institute of Medical Research	1,863,000	12	1	1,000	0	0	11	1,862,000
Murdoch Childrens Research Institute	1,712,352	2	0	0	0	0	1,712,352	2
Telethon Institute for Child Health Research	808,000	2	0	0	0	0	808,000	2
Howard Florey Institute	550,000	6	0	0	0	0	550,000	6
Macfarlane Burnet Institute for Medical Research and Public Health	219,787	1	0	0	0	0	219,787	1
Peter Mac Callum Cancer Institute	185,000	2	0	0	0	0	185,000	2
Melbourne Health	164,558	1	0	0	0	0	0	0
Queensland Institute of Medical Research	122,000	2	0	0	0	0	122,000	2
Royal North Shore Hospital	78,000	2	0	0	0	0	78,000	2
Prince Henry's Institute of Medical Research	29,051	1	1	29,051	0	0	0	0
St Vincent's Institute of Medical Research	6,371	2	6,371	2	0	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	400	1	400	1	0	0	0	0
Australian Neuromuscular Research Institute	0	0	0	0	0	0	0	0
Baker Heart Research Institute	0	0	0	0	0	0	0	0
Brain Research Institute	0	0	0	0	0	0	0	0
Fremantle Heart Institute	0	0	0	0	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0	0	0	0	0
Institute of Dental Research	0	0	0	0	0	0	0	0
Lions Ear and Hearing Institute	0	0	0	0	0	0	0	0
Mental Health Research Institute	0	0	0	0	0	0	0	0
Menzies School of Health Research	0	0	0	0	0	0	0	0
National Heart Foundation of Australia	0	0	0	0	0	0	0	0
National Stroke Research Institute	0	0	0	0	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0	0	0	0	0	0	0
NSW State Cancer Council	0	0	0	0	0	0	0	0

continued

Table B12. continued

	Gross LOA Income ($)	Number of LOAs Yielding Income	Gross LOA Income: Running Royalties ($)	Number of LOAs Yielding Running Royalties	Gross LOA Income: Cashed-In Equity ($)	Number of LOAs Yielding Cashed-In Equity	Gross LOA Income: All Other Types ($)	Number of LOAs Yielding All Other Types
Prince of Wales Medical Research Institute	0	0	0	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0	0	0	0	0
The Heart Research Institute	0	0	0	0	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	0	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**20,173,050**	**61**	**11,303,353**	**27**	**3,168,000**	**5**	**5,537,139**	**28**
CSIRO	**12,109,635**	**279**	**10,431,962**	**145**	**0**	**0**	**1,677,673**	**134**
Cooperative Research Centre								
Eye Research and Technology	2,215,000	1	2,215,000	1	0	0	0	0
Discovery of Genes for Common Human Diseases	630,000	3	0	0	0	0	630,000	3
DSTC Pty Ltd	593,145	24	0	0	0	0	593,145	24
Innovative Wood Manufacturing	170,000	1	0	0	0	0	170,000	1
Cast Metals Manufacturing	100,000	1	100,000	1	0	0	0	0
Value Added Wheat	55,000	1	55,000	1	0	0	0	0
Polymers	25,000	1	25,000	1	0	0	0	0
Asthma Ltd	0	0	0	0	0	0	0	0
Australian Cotton	0	0	0	0	0	0	0	0
Australian Petroleum	0	0	0	0	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0	0	0	0	0
Australian Sheep Industry	0	0	0	0	0	0	0	0
Australian Telecommunications	0	0	0	0	0	0	0	0
Australian Weed Management	0	0	0	0	0	0	0	0
Bioproducts	0	0	0	0	0	0	0	0
Capital Markets CRC Limited	0	0	0	0	0	0	0	0
Catchment Hydrology	0	0	0	0	0	0	0	0
Cattle and Beef Quality	0	0	0	0	0	0	0	0
Cellular Growth Factors	0	0	0	0	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0	0	0	0	0
Clean Power from Lignite	0	0	0	0	0	0	0	0
Coal in Sustainable Development	0	0	0	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0	0	0	0	0
Construction Innovation	0	0	0	0	0	0	0	0
Freshwater Ecology	0	0	0	0	0	0	0	0

continued

Table B12. continued

	Gross LOA Income ($)	Number of LOAs Yielding Income	Gross LOA Income: Running Royalties ($)	Number of LOAs Yielding Running Royalties	Gross LOA Income: Cashed-In Equity ($)	Number of LOAs Yielding Cashed-In Equity	Gross LOA Income: All Other Types ($)	Number of LOAs Yielding All Other Types
Functional Communication Surfaces	0	0	0	0	0	0	0	0
Hydrometallurgy	0	0	0	0	0	0	0	0
Innovative Dairy Products	0	0	0	0	0	0	0	0
Interaction Design	0	0	0	0	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0	0	0	0	0
MicroTechnology	0	0	0	0	0	0	0	0
Molecular Plant Breeding	0	0	0	0	0	0	0	0
Pest Animal Control	0	0	0	0	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0	0	0	0	0
Predictive Mineral Discovery	0	0	0	0	0	0	0	0
Railway Engineering and Technologies	0	0	0	0	0	0	0	0
Smart Internet Technology	0	0	0	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0	0	0	0	0
Sustainable Production Forestry	0	0	0	0	0	0	0	0
Sustainable Rice Production	0	0	0	0	0	0	0	0
Sustainable Tourism	0	0	0	0	0	0	0	0
The Great Barrier Reef World Heritage Area	0	0	0	0	0	0	0	0
Tropical Plant Protection	0	0	0	0	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0	0	0	0	0
Tropical Savannas	0	0	0	0	0	0	0	0
Vaccine Technology	0	0	0	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**3,788,145**	**32**	**2,395,000**	**4**	**0**	**0**	**1,393,145**	**28**
Other Publicly Funded Research Agencies								
Defence Science and Technology Organisation (DSTO)	994,000	6	984,000	5	0	0	10,000	1
Australian Institute of Marine Science (AIMS)	0	0	0	0	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**994,000**	**6**	**984,000**	**5**	**0**	**0**	**10,000**	**1**
TOTAL ALL RESPONDENTS: 124	**85,589,936**	**675**	**37,773,997**	**362**	**3,850,150**	**9**	**43,796,230**	**316**

Table B13. Inventor Involvement In Licensing for Year 2002 (Ranked by Inventor Extremely Involved)

	LOA Count – Inventor Extremely Involved	LOA Count – Inventor Very Involved	LOA Count – Inventor Moderately Involved	LOA Count – Inventor Somewhat Involved	LOA Count – Inventor Uninvolved
University					
The University of Melbourne	37	0	0	0	0
Southern Cross University	20	0	0	0	0
University of Wollongong	9	11	2	0	0
The University of Sydney	4	15	3	0	1
Monash University	4	0	0	0	0
The University of Western Australia	3	1	1	0	0
University of Canberra	3	0	0	0	1
The Australian National University	2	3	3	2	1
Swinburne University of Technology	2	1	0	0	0
The University of New England	2	0	0	0	0
The University of Queensland	1	9	0	5	3
The University of Newcastle	1	2	0	1	0
James Cook University	1	1	1	0	0
Royal Melbourne Institute of Technology	1	1	1	2	1
University of Technology, Sydney	1	1	1	0	0
La Trobe University	1	1	0	0	0
Victoria University of Technology	1	0	1	0	0
The University of Adelaide	0	4	4	0	0
The University of New South Wales	0	3	40	0	0
Macquarie University	0	2	0	0	0
Curtin University of Technology	0	1	1	0	0
Queensland University of Technology	0	1	1	0	0
Griffith University	0	1	0	0	0
The Flinders University of South Australia	0	0	3	0	0
University of South Australia	0	0	1	0	0
Australian Catholic University	0	0	0	0	0
Central Queensland University	0	0	0	0	0
Charles Darwin University	0	0	0	0	0
Charles Sturt University	0	0	0	0	0
Deakin University	0	0	0	0	0
Edith Cowan University	0	0	0	0	0
Murdoch University	0	0	0	0	0
The University of Notre Dame Australia	0	0	0	0	0
University of Ballarat	0	0	0	0	0
University of Southern Queensland	0	0	0	0	0
University of Tasmania	0	0	0	0	0
University of the Sunshine Coast	0	0	0	0	0
University of Western Sydney	0	0	0	0	0
TOTAL UNIVERSITIES: 38	**93**	**58**	**63**	**10**	**7**
Medical Research Institute					
Howard Florey Institute	6	0	0	0	0
Walter and Eliza Hall Institute of Medical Research	5	0	0	0	0
Peter Mac Callum Cancer Institute	2	0	6	0	0
Telethon Institute for Child Health Research	2	0	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	1	0	0	0	0
Murdoch Childrens Research Institute	1	0	0	0	0
Garvan Institute of Medical Research	0	2	0	3	4
Ludwig Institute for Cancer Research	0	1	5	0	10
Queensland Institute of Medical Research	0	1	1	0	0
Royal North Shore Hospital	0	0	2	0	0
Baker Heart Research Institute	0	0	0	1	0
Austin Research Institute	0	0	0	0	0
Australian Neuromuscular Research Institute	0	0	0	0	0
Brain Research Institute	0	0	0	0	0
Centenary Institute of Cancer Medicine & Cell Biology	0	0	0	0	0
Fremantle Heart Institute	0	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0	0
Institute of Dental Research	0	0	0	0	0
Lions Ear and Hearing Institute	0	0	0	0	0
Melbourne Health	0	0	0	0	0
Mental Health Research Institute	0	0	0	0	0

continued

Table B13. continued

	LOA Count – Inventor Extremely Involved	LOA Count – Inventor Very Involved	LOA Count – Inventor Moderately Involved	LOA Count – Inventor Somewhat Involved	LOA Count – Inventor Uninvolved
Menzies School of Health Research	0	0	0	0	0
National Heart Foundation of Australia	0	0	0	0	0
National Stroke Research Institute	0	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0	0	0	0
NSW State Cancer Council	0	0	0	0	0
Prince Henry's Institute of Medical Research	0	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0	0
St Vincent's Institute of Medical Research	0	0	0	0	0
The Heart Research Institute	0	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**17**	**4**	**14**	**4**	**14**
CSIRO	**31**	**99**	**37**	**9**	**12**
Cooperative Research Centre					
DSTC Pty Ltd	1	9	3	3	9
Value Added Wheat	1	2	2	0	0
Australian Cotton	1	0	0	0	0
Bioproducts	1	0	0	0	0
Cellular Growth Factors	1	0	0	1	0
Innovative Wood Manufacturing	1	0	0	0	0
Sustainable Production Forestry	1	0	0	0	0
Cast Metals Manufacturing	0	0	2	5	0
Discovery of Genes for Common Human Diseases	0	0	1	0	0
Sustainable Tourism	0	0	1	2	0
Cattle and Beef Quality	0	0	0	2	0
MicroTechnology	0	0	0	0	1
Asthma Ltd	0	0	0	0	0
Australian Petroleum	0	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0	0
Australian Sheep Industry	0	0	0	0	0
Australian Telecommunications	0	0	0	0	0
Australian Weed Management	0	0	0	0	0
Capital Markets CRC Limited	0	0	0	0	0
Catchment Hydrology	0	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0	0
Clean Power from Lignite	0	0	0	0	0
Coal in Sustainable Development	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0	0
Construction Innovation	0	0	0	0	0
Eye Research and Technology	0	0	0	0	0
Freshwater Ecology	0	0	0	0	0
Functional Communication Surfaces	0	0	0	0	0
Hydrometallurgy	0	0	0	0	0
Innovative Dairy Products	0	0	0	0	0
Interaction Design	0	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0	0
Molecular Plant Breeding	0	0	0	0	0
Pest Animal Control	0	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0	0
Polymers	0	0	0	0	0
Predictive Mineral Discovery	0	0	0	0	0
Railway Engineering and Technologies	0	0	0	0	0
Smart Internet Technology	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0	0
Sustainable Rice Production	0	0	0	0	0
The Great Barrier Reef World Heritage Area	0	0	0	0	0
Tropical Plant Protection	0	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0	0

continued

Table B13. continued

	LOA Count – Inventor Extremely Involved	LOA Count – Inventor Very Involved	LOA Count – Inventor Moderately Involved	LOA Count – Inventor Somewhat Involved	LOA Count – Inventor Uninvolved
Tropical Savannas	0	0	0	0	0
Vaccine Technology	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**7**	**11**	**9**	**13**	**10**
Other Publicly Funded Research Agencies					
Defence Science and Technology Organisation (DSTO)	1	0	0	4	2
Australian Institute of Marine Science (AIMS)	0	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**1**	**0**	**0**	**4**	**2**
TOTAL ALL RESPONDENTS: 124	**149**	**172**	**123**	**40**	**45**

Table B14. Licences/Options/Assignments (LOAs) by Research Area for Year 2002 (Ranked by LOAs Executed)

University	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
The University of Sydney	1986	207	17	78	108	13	26	25	0	9	3	0	3	3	0	3	0	0	1	39	2	21	29	2	14	0	0	1
The University of New South Wales	1998	103	2	85	21	2	21	0	0	0	61	0	43	0	0	0	0	0	0	21	0	21	0	0	0	0	0	0
University of Wollongong	1986	70	1	46	17	0	14	24	1	18	8	0	6	3	0	0	0	0	0	18	0	8	0	0	0	0	0	0
The University of New England	1970	64	64	64	0	0	0	0	0	0	64	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Queensland	2000	52	20	47	29	14	25	2	0	1	2	2	2	3	1	3	0	0	0	12	1	12	4	2	4	0	0	0
Queensland University of Technology	1989	48	1	16	5	1	3	2	0	1	17	0	0	5	0	5	2	0	0	8	0	3	9	0	4	0	0	0
The Australian National University	1995	47	7	47	16	4	16	2	1	2	1	0	1	0	0	0	1	0	1	11	0	11	15	2	15	0	0	0
The University of Adelaide	1992	46	0	46	30	0	30	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14	2	0	2	0	0	0
Monash University	1986	40	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Melbourne	2002	37	0	31	0	0	0	7	0	5	0	0	0	0	0	0	1	0	1	5	0	5	13	0	10	11	0	10
University of Technology, Sydney	1996	31	2	13	0	0	0	0	0	0	0	0	0	0	0	0	10	0	4	10	0	4	11	2	5	0	0	0
Southern Cross University	2000	25	1	25	25	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Royal Melbourne Institute of Technology	2000	24	1	24	10	0	10	1	0	1	9	1	9	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0
Victoria University of Technology	1993	21	6	21	5	3	6	4	2	6	7	0	4	2	0	2	0	0	0	2	1	2	1	0	1	0	0	0
Macquarie University	1995	20	1	12	10	1	7	0	0	0	10	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Western Australia	1993	17	0	15	1	0	1	3	0	3	0	0	0	0	0	0	3	0	3	4	0	2	4	0	3	2	0	2
La Trobe University	1994	16	2	5	14	1	5	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Newcastle	1985	14	4	12	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	7	2	6	5	2	4	0	0	0
The Flinders University of South Australia	1987	12	8	11	7	7	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4	1	3	0	0	0
University of South Australia	1989	11	1	12	0	0	0	1	0	0	3	0	0	2	0	0	1	0	0	3	0	0	2	0	0	0	0	0
Swinburne University of Technology	1995	9	6	8	1	1	1	0	0	0	2	2	2	1	1	1	0	0	0	5	2	4	0	0	0	0	0	0
James Cook University	2000	4	2	4	4	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Canberra	2000	4	2	4	0	0	0	2	1	2	0	0	0	1	1	2	0	0	0	0	0	0	1	0	0	0	0	0
Griffith University	2001	3	3	3	1	1	1	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
Curtin University of Technology	2002	2	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
University of Western Sydney	2001	2	0	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Charles Darwin University	2001	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0

continued

Table B14. continued

	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
Central Queensland University	2000	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Tasmania	2001	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Charles Sturt University	1999	0	1	2	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Murdoch University	2001	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Catholic University	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deakin University	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Edith Cowan University	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Notre Dame Australia	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Ballarat	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Southern Queensland	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of the Sunshine Coast	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL UNIVERSITIES: 38		**932**	**169**	**638**	**309**	**54**	**209**	**74**	**5**	**48**	**190**	**7**	**141**	**20**	**3**	**16**	**18**	**0**	**10**	**166**	**10**	**120**	**101**	**11**	**66**	**14**	**0**	**14**
Medical Research Institute																												
Garvan Institute of Medical Research	1990	61	4	44	49	4	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	9	0	0	0
Walter and Eliza Hall Institute of Medical Research	2001	9	2	9	9	2	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Howard Florey Institute	2000	9	0	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peter Mac Callum Cancer Institute	2002	8	0	8	6	0	6	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Queensland Institute of Medical Research	n/a	6	0	3	6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Royal North Shore Hospital	1996	5	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	3	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	1995	4	1	4	4	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Telethon Institute for Child Health Research	2000	3	1	3	3	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
St Vincent's Institute of Medical Research	n/a	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0
Melbourne Health	1999	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
Murdoch Childrens Research Institute	2000	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0
Baker Heart Research Institute	2002	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

continued

Table B14. continued

	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
Centenary Institute of Cancer Medicine & Cell Biology	1999	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prince Henry's Institute of Medical Research	1986	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Austin Research Institute	1991	0	5	5	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ludwig Institute for Cancer Research	1980	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0
Australian Neuromuscular Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brain Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fremantle Heart Institute	2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Genomic Disorders Research Centre	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Institute of Dental Research	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lions Ear and Hearing Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mental Health Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Menzies School of Health Research	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
National Heart Foundation of Australia	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
National Stroke Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
National Vision Research Institute of Australia	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NSW State Cancer Council	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prince of Wales Medical Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The Heart Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turning Point Alcohol and Drug Centre	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Victor Chang Cardiac Research Institute	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Victorian Breast Cancer Research Consortium	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35		**113**	**15**	**111**	**86**	**13**	**67**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**2**	**37**	**0**	**0**	**0**

continued

Table B14. continued

	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
CSIRO	**1998**	**630**	**4**	**577**	**81**	**4**	**90**	**176**	**0**	**97**	**167**	**0**	**186**	**0**	**0**	**0**	**0**	**0**	**0**	**185**	**0**	**188**	**18**	**0**	**14**	**3**	**0**	**2**
Cooperative Research Centre																												
DSTC Pty Ltd	1999	17	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	2
Cattle and Beef Quality	1999	10	0	9	10	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cast Metals Manufacturing	1996	9	0	9	0	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Discovery of Genes for Common Human Diseases	n/a	7	0	5	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Value Added Wheat	2001	5	3	5	5	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cellular Growth Factors	n/a	5	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Polymers	2001	4	0	4	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Tourism	1998	4	0	4	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eye Research and Technology	1991	3	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	0	0	0
Sustainable Production Forestry	1997	3	0	3	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Plant Protection	1999	3	0	3	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Catchment Hydrology	1999	2	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clean Power from Lignite	1995	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	0	0	0	0	0	0
Molecular Plant Breeding	2000	2	0	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bioproducts	1999	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MicroTechnology	n/a	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Australian Cotton	n/a	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Innovative Wood Manufacturing	n/a	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asthma Ltd	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Petroleum	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Poultry Pty Ltd	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Sheep Industry	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Telecommunications	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Weed Management	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

continued

Table B14. continued

	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
Capital Markets CRC Limited	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chronic Inflammatory Diseases	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coal in Sustainable Development	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction Innovation	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freshwater Ecology	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Functional Communication Surfaces	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrometallurgy	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Innovative Dairy Products	2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interaction Design	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Landscape Environments & Mineral Exploration	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pest Animal Control	1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plant-based Management of Dryland Salinity	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Predictive Mineral Discovery	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Railway Engineering and Technologies	2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Smart Internet Technology	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Aquaculture of Finfish	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sustainable Rice Production	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The Great Barrier Reef World Heritage Area	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Rainforest Ecology and Management	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tropical Savannas	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vaccine Technology	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47		**80**	**11**	**54**	**37**	**5**	**25**	**16**	**2**	**14**	**4**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**2**	**3**	**2**	**1**	**18**	**1**	**3**

continued

Table B14. continued

	Cumulative Period Start Year	LOAs Executed	LOAs Executed With Equity	LOAs Active at Year End	LOAs Executed: Biological Sciences and Biotechnology	LOAs Executed with Equity: Biological Sciences and Biotechnology	LOAs Active at Year End: Biological Sciences and Biotechnology	LOAs Executed: Physical, Chemical and Earth Sciences	LOAs Executed with Equity: Physical, Chemical and Earth Sciences	LOAs Active at Year End: Physical, Chemical and Earth Sciences	LOAs Executed: Mathematics, Information and Communication Sciences	LOAs Executed with Equity: Mathematics, Information and Communication Sciences	LOAs Active at Year End: Mathematics, Information and Communication Sciences	LOAs Executed: Social, Behavioural and Economic Sciences	LOAs Executed with Equity: Social, Behavioural and Economic Sciences	LOAs Active at Year End: Social, Behavioural and Economic Sciences	LOAs Executed: Humanities and Creative Arts	LOAs Executed with Equity: Humanities and Creative Arts	LOAs Active at Year End: Humanities and Creative Arts	LOAs Executed: Engineering and Environmental Sciences	LOAs Executed with Equity: Engineering and Environmental Sciences	LOAs Active at Year End: Engineering and Environmental Sciences	LOAs Executed: Health and Clinical Sciences	LOAs Executed with Equity: Health and Clinical Sciences	LOAs Active at Year End: Health and Clinical Sciences	LOAs Executed: Other	LOAs Executed with Equity: Other	LOAs Active at Year End: Other
Other Publicly Funded Research Agencies																													
Defence Science and Technology Organisation (DSTO)	1990	119	0	65	6	0	0	18	0	0	18	0	0	0	0	0	0	0	0	36	0	0	0	0	0	41	0	0
Australian Institute of Marine Science (AIMS)	1984	7	0	7	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australian Nuclear Science and Technology Organisation (ANSTO)	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3		**126**	**0**	**72**	**13**	**0**	**7**	**18**	**0**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**0**	**0**	**0**	**0**	**0**	**41**	**0**	**0**
TOTAL ALL RESPONDENTS: 124		**1881**	**199**	**1452**	**526**	**76**	**398**	**284**	**7**	**159**	**381**	**7**	**333**	**20**	**3**	**16**	**18**	**0**	**10**	**389**	**11**	**310**	**143**	**15**	**118**	**76**	**1**	**19**

Table B15. Start-up Companies Formed in Year 2002 (Ranked by Start-Up Companies Formed)

	Start-Up Companies Formed	Start-Up Companies Formed: Those Having Place of Business in Australia	Start-Up Companies Formed: Those Having Headquarters in Australia	Start-Up Companies that Became Non-Operational at Year End 2002	Start-Up Companies Operational at Year End 2002	Start-Up Companies Operational at Year End 2002 with Institution Holding Equity
University						
The University of Queensland	9	9	9	2	34	28
Macquarie University	4	3	3	0	3	3
Monash University	4	2	2	0	8	8
La Trobe University	3	3	3	1	6	2
The University of Melbourne	3	3	3	0	3	3
The University of Sydney	3	3	3	0	25	19
The University of Western Australia	3	3	3	0	3	3
The Australian National University	3	3	2	0	3	3
James Cook University	2	2	2	0	2	2
Swinburne University of Technology	2	2	2	0	2	2
Curtin University of Technology	1	1	1	0	2	2
Griffith University	1	1	1	0	3	3
Murdoch University	1	1	1	0	1	1
The University of Adelaide	1	1	1	1	1	1
The University of New South Wales	1	1	1	0	9	6
University of South Australia	1	1	1	0	2	2
University of Technology, Sydney	1	1	1	0	1	0
Victoria University of Technology	1	1	1	0	1	1
The Flinders University of South Australia	1	1	1	0	1	1
Deakin University	0	0	0	0	1	1
Australian Catholic University	0	0	0	0	0	0
Central Queensland University	0	0	0	0	0	0
Charles Darwin University	0	0	0	0	0	0
Charles Sturt University	0	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0
Queensland University of Technology	0	0	0	0	0	0
Royal Melbourne Institute of Technology	0	0	0	0	0	0
Southern Cross University	0	0	0	0	0	0
The University of New England	0	0	0	0	0	0
The University of Newcastle	0	0	0	0	0	0
The University of Notre Dame Australia	0	0	0	0	0	0
University of Ballarat	0	0	0	0	0	0
University of Canberra	0	0	0	0	0	0
University of Southern Queensland	0	0	0	0	0	0
University of Tasmania	0	0	0	0	0	0
University of the Sunshine Coast	0	0	0	0	0	0
University of Western Sydney	0	0	0	0	0	0
University of Wollongong	0	0	0	0	0	0
TOTAL UNIVERSITIES: 38	**45**	**42**	**41**	**4**	**111**	**91**
Medical Research Institute						
Telethon Institute for Child Health Research	8	1	1	0	0	0
Austin Research Institute	3	3	3	3	3	3
Macfarlane Burnet Institute for Medical Research and Public Health	1	1	1	1	1	1
Murdoch Childrens Research Institute	1	1	1	0	2	2
Garvan Institute of Medical Research	0	0	0	0	3	3
Centenary Institute of Cancer Medicine & Cell Biology	0	0	0	1	1	1
Royal North Shore Hospital	0	0	0	0	1	0
Walter and Eliza Hall Institute of Medical Research	0	0	0	0	2	2
Australian Neuromuscular Research Institute	0	0	0	0	0	0
Baker Heart Research Institute	0	0	0	0	0	0
Brain Research Institute	0	0	0	0	0	0
Fremantle Heart Institute	0	0	0	0	0	0
Genomic Disorders Research Centre	0	0	0	0	0	0
Howard Florey Institute	0	0	0	0	0	0
Institute of Dental Research	0	0	0	0	0	0
Lions Ear and Hearing Institute	0	0	0	0	0	0

continued

Table B15. continued

	Start-Up Companies Formed	Start-Up Companies Formed: Those Having Place of Business in Australia	Start-Up Companies Formed: Those Having Headquarters in Australia	Start-Up Companies that Became Non-Operational at Year End 2002	Start-Up Companies Operational at Year End 2002	Start-Up Companies Operational at Year End 2002 with Institution Holding Equity
Ludwig Institute for Cancer Research	0	0	0	0	0	0
Melbourne Health	0	0	0	0	0	0
Mental Health Research Institute	0	0	0	0	0	0
Menzies School of Health Research	0	0	0	0	0	0
National Heart Foundation of Australia	0	0	0	0	0	0
National Stroke Research Institute	0	0	0	0	0	0
National Vision Research Institute of Australia	0	0	0	0	0	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0	0	0	0	0	0
NSW State Cancer Council	0	0	0	0	0	0
Peter Mac Callum Cancer Institute	0	0	0	0	0	0
Prince Henry's Institute of Medical Research	0	0	0	0	0	0
Prince of Wales Medical Research Institute	0	0	0	0	0	0
Queensland Institute of Medical Research	0	0	0	0	0	0
Royal Brisbane & Women's Hospital Foundation	0	0	0	0	0	0
St Vincent's Institute of Medical Research	0	0	0	0	0	0
The Heart Research Institute	0	0	0	0	0	0
Turning Point Alcohol and Drug Centre	0	0	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	0	0	0
Victorian Breast Cancer Research Consortium	0	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**13**	**6**	**6**	**5**	**13**	**12**
CSIRO	**3**	**3**	**3**	**0**	**3**	**1**
Cooperative Research Centre						
Bioproducts	1	1	1	0	1	1
Cast Metals Manufacturing	1	1	1	0	1	1
DSTC Pty Ltd	1	1	1	0	1	1
MicroTechnology	1	1	1	0	1	1
Clean Power from Lignite	1	0	0	0	1	1
Sustainable Tourism	0	0	0	0	2	2
Cattle and Beef Quality	0	0	0	0	1	0
Asthma Ltd	0	0	0	0	0	0
Australian Cotton	0	0	0	0	0	0
Australian Petroleum	0	0	0	0	0	0
Australian Poultry Pty Ltd	0	0	0	0	0	0
Australian Sheep Industry	0	0	0	0	0	0
Australian Telecommunications	0	0	0	0	0	0
Australian Weed Management	0	0	0	0	0	0
Capital Markets CRC Limited	0	0	0	0	0	0
Catchment Hydrology	0	0	0	0	0	0
Cellular Growth Factors	0	0	0	0	0	0
Chronic Inflammatory Diseases	0	0	0	0	0	0
Coal in Sustainable Development	0	0	0	0	0	0
Coastal Zone, Estuary and Waterway Management	0	0	0	0	0	0
Construction Innovation	0	0	0	0	0	0
Discovery of Genes for Common Human Diseases	0	0	0	0	0	0
Eye Research and Technology	0	0	0	0	0	0
Freshwater Ecology	0	0	0	0	0	0
Functional Communication Surfaces	0	0	0	0	0	0
Hydrometallurgy	0	0	0	0	0	0
Innovative Dairy Products	0	0	0	0	0	0
Innovative Wood Manufacturing	0	0	0	0	0	0
Interaction Design	0	0	0	0	0	0
Landscape Environments & Mineral Exploration	0	0	0	0	0	0
Molecular Plant Breeding	0	0	0	0	0	0
Pest Animal Control	0	0	0	0	0	0
Plant-based Management of Dryland Salinity	0	0	0	0	0	0
Polymers	0	0	0	0	0	0
Predictive Mineral Discovery	0	0	0	0	0	0

continued

Table B15. continued

	Start-Up Companies Formed	Start-Up Companies Formed: Those Having Place of Business in Australia	Start-Up Companies Formed: Those Having Headquarters in Australia	Start-Up Companies that Became Non-Operational at Year End 2002	Start-Up Companies Operational at Year End 2002	Start-Up Companies Operational at Year End 2002 with Institution Holding Equity
Railway Engineering and Technologies	0	0	0	0	0	0
Smart Internet Technology	0	0	0	0	0	0
Sugar Industry Innovation through Biotechnology	0	0	0	0	0	0
Sustainable Aquaculture of Finfish	0	0	0	0	0	0
Sustainable Production Forestry	0	0	0	0	0	0
Sustainable Rice Production	0	0	0	0	0	0
The Great Barrier Reef World Heritage Area	0	0	0	0	0	0
Tropical Plant Protection	0	0	0	0	0	0
Tropical Rainforest Ecology and Management	0	0	0	0	0	0
Tropical Savannas	0	0	0	0	0	0
Vaccine Technology	0	0	0	0	0	0
Value Added Wheat	0	0	0	0	0	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**5**	**4**	**4**	**0**	**8**	**7**
Other Publicly Funded Research Agencies						
Australian Institute of Marine Science (AIMS)	1	1	1	0	1	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0	0	0	0	0	0
Defence Science and Technology Organisation (DSTO)	0	0	0	0	0	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**1**	**1**	**1**	**0**	**1**	**0**
TOTAL ALL RESPONDENTS: 124	**67**	**56**	**55**	**9**	**136**	**111**

Table B16. Value of All Equity Holdings at Year End 2002 (Ranked by Value of All Equity Holdings at Year End 2002)

	Value of All Equity Holdings at Year End 2002 ($)
University	
The University of Queensland	46,430,555
The University of Western Australia	11,400,000
The Flinders University of South Australia	10,550,808
The University of Sydney	8,942,072
The University of Melbourne	4,388,000
The University of New South Wales	1,142,000
Griffith University	657,571
University of South Australia	578,663
Swinburne University of Technology	511,000
Macquarie University	364,000
Deakin University	360,000
Charles Darwin University	250,000
The University of Newcastle	172,024
La Trobe University	130,000
Central Queensland University	50,000
James Cook University	20,000
Australian Catholic University	0
Charles Sturt University	0
Curtin University of Technology	0
Edith Cowan University	0
Monash University	0
Murdoch University	0
Queensland University of Technology	0
Royal Melbourne Institute of Technology	0
Southern Cross University	0
The Australian National University	0
The University of Adelaide	0

continued

Table B16. continued

	Value of All Equity Holdings at Year End 2002 ($)
The University of New England	0
The University of Notre Dame Australia	0
University of Ballarat	0
University of Canberra	0
University of Southern Queensland	0
University of Tasmania	0
University of Technology, Sydney	0
University of the Sunshine Coast	0
University of Western Sydney	0
University of Wollongong	0
Victoria University of Technology	0
TOTAL UNIVERSITIES: 38	**85,946,693**
Medical Research Institute	
Austin Research Institute	3,168,000
Garvan Institute of Medical Research	3,100,000
Centenary Institute of Cancer Medicine & Cell Biology	3,000,000
Murdoch Childrens Research Institute	1,063,300
Queensland Institute of Medical Research	199,038
Howard Florey Institute	130,000
Lions Ear and Hearing Institute	30,000
Australian Neuromuscular Research Institute	0
Baker Heart Research Institute	0
Brain Research Institute	0
Fremantle Heart Institute	0
Genomic Disorders Research Centre	0
Institute of Dental Research	0
Ludwig Institute for Cancer Research	0
Macfarlane Burnet Institute for Medical Research and Public Health	0
Melbourne Health	0
Mental Health Research Institute	0
Menzies School of Health Research	0
National Heart Foundation of Australia	0
National Stroke Research Institute	0
National Vision Research Institute of Australia	0
Neuroscience Institute of Schizophrenia and Allied Disorders	0
NSW State Cancer Council	0
Peter Mac Callum Cancer Institute	0
Prince Henry's Institute of Medical Research	0
Prince of Wales Medical Research Institute	0
Royal Brisbane & Women's Hospital Foundation	0
Royal North Shore Hospital	0
St Vincent's Institute of Medical Research	0
Telethon Institute for Child Health Research	0
The Heart Research Institute	0
Turning Point Alcohol and Drug Centre	0
Victor Chang Cardiac Research Institute	0
Victorian Breast Cancer Research Consortium	0
Walter and Eliza Hall Institute of Medical Research	0
TOTAL MEDICAL RESEARCH INSTITUTES: 35	**10,690,338**
CSIRO	**18,993,649**
Cooperative Research Centre	
Sustainable Tourism	7,500,000
Clean Power from Lignite	50,050
Bioproducts	3
Asthma Ltd	0
Australian Cotton	0
Australian Petroleum	0
Australian Poultry Pty Ltd	0
Australian Sheep Industry	0
Australian Telecommunications	0
Australian Weed Management	0
Capital Markets CRC Limited	0
Cast Metals Manufacturing	0
Catchment Hydrology	0

continued

Table B16. continued

	Value of All Equity Holdings at Year End 2002 ($)
Cattle and Beef Quality	0
Cellular Growth Factors	0
Chronic Inflammatory Diseases	0
Coal in Sustainable Development	0
Coastal Zone, Estuary and Waterway Management	0
Construction Innovation	0
Discovery of Genes for Common Human Diseases	0
DSTC Pty Ltd	0
Eye Research and Technology	0
Freshwater Ecology	0
Functional Communication Surfaces	0
Hydrometallurgy	0
Innovative Dairy Products	0
Innovative Wood Manufacturing	0
Interaction Design	0
Landscape Environments & Mineral Exploration	0
MicroTechnology	0
Molecular Plant Breeding	0
Pest Animal Control	0
Plant-based Management of Dryland Salinity	0
Polymers	0
Predictive Mineral Discovery	0
Railway Engineering and Technologies	0
Smart Internet Technology	0
Sugar Industry Innovation through Biotechnology	0
Sustainable Aquaculture of Finfish	0
Sustainable Production Forestry	0
Sustainable Rice Production	0
The Great Barrier Reef World Heritage Area	0
Tropical Plant Protection	0
Tropical Rainforest Ecology and Management	0
Tropical Savannas	0
Vaccine Technology	0
Value Added Wheat	0
TOTAL COOPERATIVE RESEARCH CENTRES: 47	**7,550,053**
Other Publicly Funded Research Agencies	
Australian Institute of Marine Science (AIMS)	0
Australian Nuclear Science and Technology Organisation (ANSTO)	0
Defence Science and Technology Organisation (DSTO)	0
TOTAL OTHER PUBLICLY FUNDED RESEARCH AGENCIES: 3	**0**
TOTAL ALL RESPONDENTS: 124	**123,180,733**

Time series tables – for the 45 institutions that responded for years 2000, 2001 and 2002

Table C1. Commercialisation Staff (Full-time Equivalent) for Institutions that Responded for Years 2000, 2001 and 2002

	Commercialisation Staff (FTE)			Other Staff (FTE) Supporting Commercialisation Activities			Staff (FTE) Employed in Commercialisation Office			Staff (FTE) Employed in Commercialisation Company		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
University												
Australian Catholic University	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0
Central Queensland University	0.3	0	0	0.0	0	0	0.0	0	0	0.0	0	0
Charles Darwin University	0.0	1	0	0.0	2	0	0.0	0	0	0.0	0	0
Charles Sturt University	0.0	1	0	0.0	2	0	0.0	0	0	0.0	0	0
Deakin University	2.5	1	1	4.0	0	0	0.0	0	0	0.0	0	0
Edith Cowan University	0.0	0	0	0.3	0	0	0.0	0	0	0.0	0	0
Griffith University	1.5	2	2	0.0	1	1	0.0	0	0	0.0	0	0
James Cook University	0.5	1	1	0.5	0	0	1.0	1	1	0.0	0	0
La Trobe University	0.7	1	1	1.3	2	2	0.0	2	2	0.0	0	0
Monash University	5.0	8	9	4.0	4	4	0.0	0	0	6.0	6	8
Murdoch University	4.0	1	1	3.0	1	0	5.5	1	1	1.5	0	0
Queensland University of Technology	2.0	2	2	10.0	10	10	4.0	4	4	0.0	0	0
Royal Melbourne Institute of Technology	2.5	4	4	1.0	1	1	0.5	2	2	1.5	0	0
Southern Cross University	0.0	0	0	0.0	1	1	0.0	0	0	0.0	0	0
Swinburne University of Technology	1.0	2	4	0.8	0	1	1.5	2	3	0.0	0	1
The Australian National University	4.3	2	4	3.0	2	2	0.0	0	0	7.3	4	6
The Flinders University of South Australia	5.0	4	4	7.0	2	3	2.0	0	0	2.0	5	5
The University of Adelaide	5.0	5	6	2.0	2	3	0.0	0	0	7.0	7	9
The University of Melbourne	0.0	9	9	0.0	3	3	0.0	5	7	5.0	7	5
The University of New England	30.0	31	32	5.0	6	6	35.0	2	2	0.0	35	35
The University of New South Wales	8.0	12	12	1.0	4	4	0.0	0	0	9.0	12	12
The University of Newcastle	0.5	2	2	0.5	1	1	0.0	0	0	1.0	2	4
The University of Notre Dame Australia	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0
The University of Queensland	5.0	9	11	2.0	3	6	0.0	0	0	7.0	12	17
The University of Sydney	4.5	7	7	2.0	3	4	6.5	10	11	0.0	0	0
The University of Western Australia	1.0	1	3	0.0	1	1	1.0	1	4	0.0	1	0
University of Ballarat	0.0	0	1	0.0	0	0	0.0	0	1	0.0	0	0
University of South Australia	2.0	3	7	1.0	4	3	0.0	7	10	5.0	0	0
University of Tasmania	0.5	0	2	0.0	0	0	0.0	0	2	0.0	0	0
University of Technology Sydney	1.0	2	2	3.0	1	1	0.0	3	3	4.0	0	0
University of Wollongong	0.7	1	1	0.2	0	1	0.0	0	0	0.0	0	0
Victoria University of Technology	0.2	1	1	0.6	0	0	0.0	1	1	0.0	0	0
TOTAL UNIVERSITIES: 32	**87.7**	**113**	**129**	**52.2**	**56**	**58**	**57.0**	**41**	**54**	**56.3**	**91**	**102**
Medical Research Institute												
Centenary Institute of Cancer Medicine and Cell Biology	0.5	1	2	0.0	0	0	0.0	0	1	0.0	0	1
Howard Florey Institute	1.0	3	3	0.0	6	6	1.0	0	3	0.0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0.1	1	0	0.0	0	0	0.0	0	0	0.0	0	0
Melbourne Health	0.0	0	1	0.0	0	0	0.0	0	1	0.0	0	0
Menzies School of Health Research	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0
Murdoch Childrens Research Institute	0.3	0	0	0.2	1	1	0.0	0	0	0.0	0	0
Peter MacCallum Cancer Institute	0.5	0	0	0.0	0	0	0.0	0	0	0.0	0	0
Prince Henry's Institute of Medical Research	0.6	1	1	0.0	0	0	0.6	1	1	0.0	0	0
Royal North Shore Hospital	0.2	2	2	0.0	0	0	0.0	0	1	0.0	1	1
Telethon Institute for Child Health Research	1.0	0	0	0.0	1	1	1.0	0	0	0.0	0	0
Victor Chang Cardiac Research Institute	0.25	0	0	0.0	0	0	0.0	0	0	0.0	0	0
Walter and Eliza Hall Institute of Medical Research	0.0	2	2	0.0	1	0	0.0	3	2	0.0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**4.5**	**10**	**11**	**0.2**	**9**	**8**	**2.6**	**4**	**9**	**0.0**	**1**	**2**
CSIRO	**96.6**	**107**	**133**	**39.0**	**46**	**52**	**0.0**	**153**	**185**	**0.0**	**0**	**0**
TOTAL ALL RESPONDENTS: 45	**188.8**	**230**	**273**	**91.4**	**111**	**118**	**59.6**	**198**	**248**	**56.3**	**92**	**104**

Table C2. Research Expenditure for Institutions that Responded for Years 2000, 2001 and 2002

	Research Expenditure – 2000 ($)	Research Expenditure – 2002 ($)
University		
Australian Catholic University	9,032,970	5,523,559
Central Queensland University	13,681,120	8,983,000
Charles Darwin University	18,333,320	17,536,000
Charles Sturt University	13,160,590	8,000,000
Deakin University	39,268,800	46,643,000
Edith Cowan University	13,727,000	22,705,326
Griffith University	75,140,700	86,028,217
James Cook University	33,228,300	26,426,710
La Trobe University	74,229,070	73,881,625
Monash University	124,259,290	242,800,000
Murdoch University	31,460,610	50,693,356
Queensland University of Technology	58,824,160	85,092,657
Royal Melbourne Institute of Technology	41,287,840	90,221,820
Southern Cross University	13,080,750	12,143,040
Swinburne University of Technology	37,264,010	27,744,000
The Australian National University	284,391,380	241,600,000
The Flinders University of South Australia	57,798,770	46,628,448
The University of Adelaide	119,770,000	111,861,000
The University of Melbourne	290,733,620	363,099,493
The University of New England	41,709,100	44,746,284
The University of New South Wales	203,002,060	187,845,124
The University of Newcastle	75,239,270	56,387,342
The University of Notre Dame Australia	101,021	208,982
The University of Queensland	268,030,300	277,524,708
The University of Sydney	255,155,370	260,128,780
The University of Western Australia	168,332,510	117,000,000
University of Ballarat	5,878,150	5,800,169
University of South Australia	45,586,370	34,020,121
University of Tasmania	72,846,640	68,031,950
University of Technology Sydney	53,526,760	39,423,960
University of Wollongong	62,983,210	54,460,735
Victoria University of Technology	17,987,380	29,174,000
TOTAL UNIVERSITIES: 32	**$2,619,050,441**	**$2,742,363,406**
Medical Research Institute		
Centenary Institute of Cancer Medicine and Cell Biology	5,500,000	992,097
Howard Florey Institute	11,696,835	11,000,000
Macfarlane Burnet Institute for Medical Research and Public Health	10,546,288	13,612,855
Melbourne Health	5,253,158	4,883,074
Menzies School of Health Research	4,736,815	10,500,000
Murdoch Childrens Research Institute	17,321,518	28,576,539
Peter MacCallum Cancer Institute	9,771,000	19,865,510
Prince Henry's Institute of Medical Research	6,459,339	6,471,440
Royal North Shore Hospital	3,445,000	4,884,000
Telethon Institute for Child Health Research	6,950,000	10,351,000
Victor Chang Cardiac Research Institute	5,600,000	7,250,000
Walter and Eliza Hall Institute of Medical Research	31,009,541	55,710,922
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**$118,289,494**	**$174,097,437**
CSIRO	**754,500,000**	**807,496,000**
TOTAL ALL RESPONDENTS: 45	**$3,491,839,935**	**$3,723,956,843**

Table C3. Invention Disclosures for Institutions that Responded for Years 2000, 2001 and 2002

	Invention Disclosures – 2000	Invention Disclosures – 2001	Invention Disclosures – 2002
University			
Australian Catholic University	0	0	0
Central Queensland University	0	1	2
Charles Darwin University	4	3	2
Charles Sturt University	0	1	0
Deakin University	0	0	0
Edith Cowan University	0	0	3
Griffith University	4	3	3
James Cook University	4	2	6
La Trobe University	3	3	2
Monash University	40	43	0
Murdoch University	n/a	0	3
Queensland University of Technology	7	12	39
Royal Melbourne Institute of Technology	0	10	11
Southern Cross University	0	2	2
Swinburne University of Technology	20	20	26
The Australian National University	25	14	13
The Flinders University of South Australia	8	18	21
The University of Adelaide	23	30	35
The University of Melbourne	n/a	7	3
The University of New England	1	2	0
The University of New South Wales	46	76	70
The University of Newcastle	14	8	16
The University of Notre Dame Australia	0	0	0
The University of Queensland	123	85	95
The University of Sydney	52	104	84
The University of Western Australia	20	18	27
University of Ballarat	0	0	0
University of South Australia	12	59	0
University of Tasmania	2	5	10
University of Technology Sydney	5	7	1
University of Wollongong	21	25	14
Victoria University of Technology	n/a	2	1
TOTAL UNIVERSITIES: 32	**434**	**560**	**489**
Medical Research Institute			
Centenary Institute of Cancer Medicine and Cell Biology	0	0	0
Howard Florey Institute	6	3	3
Macfarlane Burnet Institute for Medical Research and Public Health	1	1	2
Melbourne Health	n/a	0	0
Menzies School of Health Research	0	0	0
Murdoch Childrens Research Institute	0	0	0
Peter MacCallum Cancer Institute	16	7	7
Prince Henry's Institute of Medical Research	3	0	0
Royal North Shore Hospital	0	3	22
Telethon Institute for Child Health Research	5	1	0
Victor Chang Cardiac Research Institute	0	2	3
Walter and Eliza Hall Institute of Medical Research	0	11	12
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**31**	**28**	**49**
CSIRO	**62**	**34**	**21**
TOTAL ALL RESPONDENTS: 45	**527**	**622**	**559**

Table C4. Patent Applications Filed in Australia and the US for Institutions that Responded for Years 2000, 2001 and 2002

	Total Australian and US Patent Applications Filed (New and Continuations) - 2000	Total Australian and US Patent Applications Filed (New and Continuations) - 2001	Total Australian and US Patent Applications Filed (New and Continuations) - 2002
University			
Australian Catholic University	0	0	0
Central Queensland University	0	2	1
Charles Darwin University	0	0	0
Charles Sturt University	0	1	0
Deakin University	1	0	0
Edith Cowan University	1	0	3
Griffith University	1	3	4
James Cook University	5	5	8
La Trobe University	7	3	5
Monash University	32	48	67
Murdoch University	n/a	0	2
Queensland University of Technology	16	21	17
Royal Melbourne Institute of Technology	5	7	4
Southern Cross University	15	2	2
Swinburne University of Technology	9	11	8
The Australian National University	115	22	13
The Flinders University of South Australia	16	5	10
The University of Adelaide	11	16	17
The University of Melbourne	47	43	33
The University of New England	2	2	3
The University of New South Wales	61	62	64
The University of Newcastle	17	12	15
The University of Notre Dame Australia	0	0	0
The University of Queensland	72	52	49
The University of Sydney	102	49	52
The University of Western Australia	10	11	15
University of Ballarat	0	0	0
University of South Australia	12	1	2
University of Tasmania	2	3	5
University of Technology Sydney	5	10	4
University of Wollongong	5	9	8
Victoria University of Technology	4	2	0
TOTAL UNIVERSITIES: 32	**573**	**402**	**411**
Medical Research Institute			
Centenary Institute of Cancer Medicine and Cell Biology	0	1	2
Howard Florey Institute	6	3	3
Macfarlane Burnet Institute for Medical Research and Public Health	1	1	1
Melbourne Health	n/a	0	0
Menzies School of Health Research	0	0	0
Murdoch Childrens Research Institute	5	6	2
Peter MacCallum Cancer Institute	13	6	6
Prince Henry's Institute of Medical Research	1	0	2
Royal North Shore Hospital	1	0	8
Telethon Institute for Child Health Research	9	4	2
Victor Chang Cardiac Research Institute	2	0	0
Walter and Eliza Hall Institute of Medical Research	24	11	12
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**62**	**32**	**38**
CSIRO	**178**	**188**	**138**
TOTAL ALL RESPONDENTS: 45	**813**	**622**	**587**

Table C5. Patents Issued Worldwide for Institutions that Responded for Years 2000, 2001 and 2002

	Patents Issued Worldwide - 2000	Patents Issued Worldwide - 2001	Patents Issued Worldwide - 2002
University			
Australian Catholic University	0	0	0
Central Queensland University	0	1	0
Charles Darwin University	0	0	0
Charles Sturt University	0	1	0
Deakin University	0	0	0
Edith Cowan University	0	0	3
Griffith University	1	1	0
James Cook University	0	0	3
La Trobe University	2	0	0
Monash University	10	0	0
Murdoch University	n/a	0	0
Queensland University of Technology	11	5	5
Royal Melbourne Institute of Technology	0	1	0
Southern Cross University	0	2	2
Swinburne University of Technology	1	0	0
The Australian National University	22	7	4
The Flinders University of South Australia	8	1	1
The University of Adelaide	13	0	2
The University of Melbourne	31	37	26
The University of New England	0	2	2
The University of New South Wales	20	2	4
The University of Newcastle	1	1	2
The University of Notre Dame Australia	0	0	0
The University of Queensland	50	18	31
The University of Sydney	23	15	19
The University of Western Australia	6	0	2
University of Ballarat	0	0	0
University of South Australia	4	5	6
University of Tasmania	0	0	0
University of Technology Sydney	5	2	0
University of Wollongong	2	0	5
Victoria University of Technology	4	0	0
TOTAL UNIVERSITIES: 32	**214**	**101**	**117**
Medical Research Institute			
Centenary Institute of Cancer Medicine and Cell Biology	3	1	0
Howard Florey Institute	2	1	0
Macfarlane Burnet Institute for Medical Research and Public Health	2	0	0
Melbourne Health	n/a	0	0
Menzies School of Health Research	0	0	0
Murdoch Childrens Research Institute	0	2	0
Peter MacCallum Cancer Institute	0	0	0
Prince Henry's Institute of Medical Research	1	0	1
Royal North Shore Hospital	2	0	0
ResearchInstitute	3	3	0
Victor Chang Cardiac Research Institute	0	0	0
Walter and Eliza Hall Institute of Medical Research	9	3	3
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**22**	**10**	**4**
CSIRO	**257**	**150**	**148**
TOTAL ALL RESPONDENTS: 45	**493**	**261**	**269**

Table C6. Legal Fees Expended and Reimbursed for Institutions that Responded for Years 2000, 2001 and 2002

	Legal Fees Expended			Legal Fees Reimbursed		
	2000	2001	2002	2000	2001	2002
University						
Australian Catholic University	0	0	0	0	0	0
Central Queensland University	0	10,000	0	0	0	0
Charles Darwin University	0	0	0	0	0	0
Charles Sturt University	0	5,000	0	0	0	5,000
Deakin University	2,000	0	0	0	0	0
Edith Cowan University	1,650	0	15,000	0	0	0
Griffith University	83,076	55,119	120,940	0	0	0
James Cook University	19,300	145,008	90,622	0	0	0
La Trobe University	19,919	21,691	49,206	775	1,235	0
Monash University	302,000	185,000	211,000	5,000	0	0
Murdoch University	19,500	10,000	20,000	0	0	0
Queensland University of Technology	54,580	94,209	240,661	0	0	100,943
Royal Melbourne Institute of Technology	24,435	37,866	63,284	0	0	0
Southern Cross University	150,000	100,000	100,000	50,000	100,000	100,000
Swinburne University of Technology	92,000	90,000	105,000	15,000	0	0
The Australian National University	728,361	1,137,699	778,185	294,681	522,723	302,963
The Flinders University of South Australia	180,479	142,675	239,224	126,003	20,723	22,067
The University of Adelaide	170,000	200,000	200,000	54,000	20,000	0
The University of Melbourne	600,000	788,757	782,655	350,000	315,405	312,752
The University of New England	11,928	10,000	10,000	0	0	0
The University of New South Wales	559,000	798,000	1,249,000	347,000	386,000	310,037
The University of Newcastle	243,000	246,892	351,688	14,000	156,155	160,198
The University of Notre Dame Australia	0	0	0	0	0	0
The University of Queensland	1,434,328	1,703,314	1,495,888	537,106	626,799	663,066
The University of Sydney	615,622	948,112	983,691	365,876	577,269	820,986
The University of Western Australia	71,000	43,863	108,385	62,173	8,721	39,455
University of Ballarat	0	0	0	0	0	0
University of South Australia	31,311	0	0	23,490	0	0
University of Tasmania	3,181	0	37,000	0	0	0
University of Technology Sydney	125,000	7,710	76,936	0	0	0
University of Wollongong	53,000	23,500	99,100	31,000	8,000	15,000
Victoria University of Technology	1,645	20,000	55,730	0	0	0
TOTAL UNIVERSITIES: 32	**$5,596,315**	**$6,824,415**	**$7,483,195**	**$2,276,104**	**$2,743,030**	**$2,852,467**
Medical Research Institute						
Centenary Institute of Cancer Medicine and Cell Biology	1,875	6,757	71,129	0	0	0
Howard Florey Institute	88,213	260,000	280,000	80,534	240,000	250,000
Macfarlane Burnet Institute for Medical Research and Public Health	19,892	54,000	73,700	0	0	0
Melbourne Health	n/a	0	20,000	n/a	0	161,636
Menzies School of Health Research	0	0	0	0	0	0
Murdoch Childrens Research Institute	38,685	99,910	284,368	0	0	63,031
Peter MacCallum Cancer Institute	23,690	22,000	120,000	12,520	0	0
Prince Henry's Institute of Medical Research	29,000	10,500	65,000	0	0	0
Royal North Shore Hospital	45,000	69,000	55,000	0	0	0
Telethon Institute for Child Health Research	25,000	57,000	56,266	0	0	0
Victor Chang Cardiac Research Institute	6,000	12,000	6,500	0	0	0
Walter and Eliza Hall Institute of Medical Research	134,641	305,993	376,083	0	0	40,000
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**$411,996**	**$897,160**	**$1,408,046**	**$93,054**	**$240,000**	**$514,667**
CSIRO	**4,719,731**	**4,979,396**	**5,944,096**	**738,864**	**979,492**	**1,539,082**
TOTAL ALL RESPONDENTS: 45	**$10,728,042**	**$12,700,971**	**$14,835,337**	**$3,108,022**	**$3,962,522**	**$4,906,216**

Table C7. Licenses/Options/Assignments (LOAs) Executed: Exclusive and Non-Exclusive for Institutions that Responded for Years 2000, 2001 and 2002

	LOAs Executed			LOAs Executed: Exclusive			LOAs Executed: Non-Exclusive		
	2000	2001	2002	2000	2001	2002	2000	2001	2002
University									
Australian Catholic University	0	0	0	0	0	0	0	0	0
Central Queensland University	0	1	0	0	1	0	0	0	0
Charles Darwin University	0	1	0	0	1	0	0	0	0
Charles Sturt University	0	3	0	0	3	0	0	0	0
Deakin University	1	0	0	1	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0	0	0	0
Griffith University	19	0	0	3	0	1	16	0	0
James Cook University	1	0	3	1	0	3	0	0	0
La Trobe University	5	1	2	5	1	2	0	0	0
Monash University	16	5	4	16	5	4	0	0	0
Murdoch University	n/a	0	0	n/a	0	1	n/a	0	0
Queensland University of Technology	2	4	2	2	2	1	0	2	1
Royal Melbourne Institute of Technology	1	11	6	0	11	5	0	0	1
Southern Cross University	4	20	20	4	0	0	0	20	20
Swinburne University of Technology	0	3	3	0	3	3	0	0	0
The Australian National University	8	2	11	8	2	11	0	0	0
The Flinders University of South Australia	3	4	3	2	0	3	1	4	0
The University of Adelaide	1	3	8	1	3	8	0	0	0
The University of Melbourne	25	15	37	n/a	15	37	n/a	0	0
The University of New England	11	2	2	5	2	2	6	0	0
The University of New South Wales	12	28	43	12	8	3	0	20	40
The University of Newcastle	3	1	4	3	1	4	0	0	0
The University of Notre Dame Australia	0	0	0	0	0	0	0	0	0
The University of Queensland	63	16	18	7	16	15	56	0	3
The University of Sydney	31	21	23	9	20	11	22	1	12
The University of Western Australia	9	4	5	5	4	3	4	0	2
University of Ballarat	0	0	0	0	0	0	0	0	0
University of South Australia	2	2	0	2	2	1	0	0	0
University of Tasmania	0	1	0	0	1	1	0	0	0
University of Technology Sydney	9	6	3	9	6	3	0	0	0
University of Wollongong	2	20	22	2	5	3	0	15	19
Victoria University of Technology	0	5	2	0	5	2	0	0	0
TOTAL UNIVERSITIES: 32	**228**	**179**	**221**	**97**	**117**	**127**	**105**	**62**	**98**
Medical Research Institute									
Centenary Institute of Cancer Medicine and Cell Biology	0	0	0	0	0	0	0	0	0
Howard Florey Institute	3	2	6	2	2	0	1	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	1	0	0	1	0	0	0
Melbourne Health	n/a	0	1	n/a	0	1	n/a	0	0
Menzies School of Health Research	0	0	0	0	0	0	0	0	0
Murdoch Childrens Research Institute	2	0	0	2	1	1	0	0	0
Peter MacCallum Cancer Institute	0	29	8	0	29	8	0	0	0
Prince Henry's Institute of Medical Research	0	0	1	0	0	0	0	0	0
Royal North Shore Hospital	2	0	2	2	0	1	0	0	1
Telethon Institute for Child Health Research	0	1	2	0	1	2	0	0	0
Victor Chang Cardiac Research Institute	1	1	0	1	1	0	0	0	0
Walter and Eliza Hall Institute of Medical Research	0	4	5	0	4	5	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**8**	**37**	**26**	**7**	**38**	**19**	**1**	**0**	**1**
CSIRO	**168**	**158**	**188**	**41**	**20**	**14**	**127**	**138**	**174**
TOTAL ALL RESPONDENTS: 45	**404**	**374**	**435**	**145**	**175**	**160**	**233**	**200**	**273**

Table C8. Licenses/Options/Assignments (LOAs) Executed: To Start-up, Small, Medium and Large Companies for Institutions that Responded for Years 2000, 2001 and 2002

	LOAs Executed			LOAs Executed: To Start-Up Companies			LOAs Executed: To Small Companies			LOAs Executed: To Medium Companies			LOAs Executed: To Large Companies		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
University															
Australian Catholic University	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Central Queensland University	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Charles Darwin University	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Charles Sturt University	0	3	0	0	0	0	0	0	0	0	1	0	0	2	0
Deakin University	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Griffith University	19	0	0	2	0	1	4	0	0	7	0	0	6	0	0
James Cook University	1	0	3	0	0	2	0	0	0	0	0	0	1	0	1
La Trobe University	5	1	2	2	0	0	3	1	1	0	0	0	0	0	1
Monash University	16	5	4	12	0	1	3	4	2	1	1	1	0	0	0
Murdoch University	n/a	0	0	n/a	0	1	n/a	0	0	n/a	0	0	n/a	0	0
Queensland University of Technology	2	4	2	0	1	0	0	0	0	0	2	0	2	1	2
Royal Melbourne Institute of Technology	1	11	6	0	0	0	0	4	3	0	2	1	0	5	2
Southern Cross University	4	20	20	n/a	0	0	n/a	0	0	n/a	0	0	n/a	20	20
Swinburne University of Technology	0	3	3	0	3	3	0	0	0	0	0	0	0	0	0
The Australian National University	8	2	11	4	0	3	0	0	2	3	0	2	1	2	4
The Flinders University of South Australia	3	4	3	0	0	2	1	0	0	1	4	1	1	0	0
The University of Adelaide	1	3	8	0	1	1	1	0	0	0	2	7	0	0	0
The University of Melbourne	25	15	37	n/a	3	2	n/a	7	17	n/a	0	0	n/a	5	18
The University of New England	11	2	2	0	0	0	9	2	2	0	0	0	2	0	0
The University of New South Wales	12	28	43	2	0	0	3	0	0	0	0	10	7	28	33
The University of Newcastle	3	1	4	2	1	0	0	0	0	1	0	2	0	0	2
The University of Notre Dame Australia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Queensland	63	16	18	2	11	9	2	1	2	4	2	4	55	2	3
The University of Sydney	31	21	23	2	9	4	18	5	6	1	2	5	10	5	8
The University of Western Australia	9	4	5	4	0	0	1	1	3	0	2	0	4	1	2
University of Ballarat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of South Australia	2	2	0	0	1	1	0	0	0	0	0	0	2	1	0
University of Tasmania	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0
University of Technology Sydney	9	6	3	1	2	1	2	0	1	0	0	0	6	4	1
University of Wollongong	2	20	22	0	1	2	0	5	2	2	9	11	0	5	7
Victoria University of Technology	0	5	2	0	2	2	0	2	0	0	0	0	0	1	0
TOTAL UNIVERSITIES: 32	**228**	**179**	**221**	**33**	**37**	**35**	**47**	**32**	**41**	**21**	**28**	**45**	**97**	**82**	**104**

continued

Table C8. continued

	LOAs Executed			LOAs Executed: To Start-Up Companies			LOAs Executed: To Small Companies			LOAs Executed: To Medium Companies			LOAs Executed: To Large Companies		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
Medical Research Institute															
Centenary Institute of Cancer Medicine and Cell Biology	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Howard Florey Institute	3	2	6	0	0	0	0	0	0	2	2	0	1	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
Melbourne Health	n/a	0	1	n/a	0	0	n/a	0	0	n/a	0	0	n/a	0	1
Menzies School of Health Research	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Murdoch Childrens Research Institute	2	0	0	2	0	1	0	1	0	0	0	0	0	0	0
Peter MacCallum Cancer Institute	0	29	8	0	5	1	0	0	0	0	13	1	0	11	6
Prince Henry's Institute of Medical Research	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Royal North Shore Hospital	2	0	2	2	0	0	0	0	0	0	0	2	0	0	0
Telethon Institute for Child Health Research	0	1	2	0	0	1	0	0	0	0	0	0	0	1	1
Victor Chang Cardiac Research Institute	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0
Walter and Eliza Hall Institute of Medical Research	0	4	5	0	3	1	0	0	1	0	0	1	0	1	2
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**8**	**37**	**26**	**4**	**8**	**5**	**0**	**1**	**1**	**3**	**16**	**4**	**1**	**13**	**10**
CSIRO	**168**	**158**	**188**	**18**	**5**	**0**	**14**	**29**	**58**	**14**	**26**	**52**	**71**	**98**	**78**
TOTAL ALL RESPONDENTS: 45	**404**	**374**	**435**	**55**	**50**	**40**	**61**	**62**	**100**	**38**	**70**	**101**	**169**	**193**	**192**

Table C9. Research Funding Related to Licences/Options/Assignments (LOAs) for Institutions that Responded for Years 2000, 2001 and 2002

	New Research Funding Related to LOAs ($) – 2000	New Research Funding Related to LOAs ($) – 2001	New Research Funding Related to LOAs ($) – 2002
University			
Australian Catholic University	0	0	0
Central Queensland University	0	20,000	20,000
Charles Darwin University	20,000	0	0
Charles Sturt University	0	0	0
Deakin University	0	0	0
Edith Cowan University	0	0	0
Griffith University	0	0	0
James Cook University	274,006	223,923	402,259
La Trobe University	470,299	61,572	490,017
Monash University	18,000,000	2,500,000	6,100,000
Murdoch University	n/a	0	768,000
Queensland University of Technology	0	0	0
Royal Melbourne Institute of Technology	2,234,337	480,333	0
Southern Cross University	1,000,000	0	0
Swinburne University of Technology	800,000	400,000	110,000
The Australian National University	7,291,692	6,611,576	5,515,499
The Flinders University of South Australia	887,367	50,000	90,000
The University of Adelaide	n/a	1,700,000	1,800,000
The University of Melbourne	965,000	10,000,000	13,300,000
The University of New England	0	0	0
The University of New South Wales	7,382,433	5,000,000	5,500,000
The University of Newcastle	838,000	926,350	805,387
The University of Notre Dame Australia	0	0	0
The University of Queensland	8,416,420	5,760,500	2,527,000
The University of Sydney	4,395,401	2,794,966	2,512,298
The University of Western Australia	1,660,000	1,842,000	626,000
University of Ballarat	0	0	0
University of South Australia	5,000	500,000	0
University of Tasmania	0	0	0
University of Technology Sydney	6,483,303	144,181	6,436
University of Wollongong	3,200,000	3,800,000	4,200,000
Victoria University of Technology	0	1,230,000	918,000
TOTAL UNIVERSITIES: 32	**$64,323,258**	**$44,045,401**	**$45,690,896**
Medical Research Institute			
Centenary Institute of Cancer Medicine and Cell Biology	0	0	0
Howard Florey Institute	1,656,206	350,000	0
Macfarlane Burnet Institute for Medical Research and Public Health	432,425	250,000	219,787
Melbourne Health	n/a	25,000	75,000
Menzies School of Health Research	0	0	0
Murdoch Childrens Research Institute	383,194	1,621,352	1,712,352
Peter MacCallum Cancer Institute	0	2,912,000	185,000
Prince Henry's Institute of Medical Research	0	0	0
Royal North Shore Hospital	580,000	0	0
Telethon Institute for Child Health Research	790,000	770,000	1,586,000
Victor Chang Cardiac Research Institute	232,000	120,000	0
Walter and Eliza Hall Institute of Medical Research	0	1,199,365	1,582,904
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**$4,073,825**	**$7,247,717**	**$5,361,043**
CSIRO	**n/a**	**n/a**	**$14,156,279**
TOTAL ALL RESPONDENTS: 45	**$68,397,083**	**$51,293,118**	**$65,208,218**

Table C10. Licence Income Information for Institutions that Responded for Years 2000, 2001 and 2002

	Gross LOA Income ($)			LOA Income Paid to Other Institutions ($)			Adjusted Gross LOA Income ($)			Number of LOAs Yielding Income		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
University												
Australian Catholic University	0	0	0	0	0	0	0	0	0	0	0	0
Central Queensland University	0	20,000	20,000	0	0	0	0	20,000	20,000	0	1	1
Charles Darwin University	0	0	0	0	0	0	0	0	0	0	0	0
Charles Sturt University	0	0	0	0	0	0	0	0	0	0	0	0
Deakin University	0	0	0	0	0	0	0	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0	0	0	0	0	0	0
Griffith University	185,409	0	0	0	0	0	185,409	0	0	17	0	0
James Cook University	24,200	15,237	236,547	0	0	0	24,200	15,237	236,547	4	1	4
La Trobe University	44,000	41,880	0	0	0	0	44,000	41,880	0	1	1	0
Monash University	320,000	0	0	0	0	0	320,000	0	0	3	0	0
Murdoch University	n/a	0	234,000	n/a	0	0	n/a	0	234,000	n/a	0	1
Queensland University of Technology	1,283,597	690,593	347,016	0	0	0	1,283,597	690,593	347,016	6	8	8
Royal Melbourne Institute of Technology	175,000	755,828	433,186	0	0	0	175,000	755,828	433,186	3	9	8
Southern Cross University	0	0	0	0	0	0	0	0	0	0	0	0
Swinburne University of Technology	850,000	807,000	132,775	0	0	0	850,000	807,000	132,775	2	5	5
The Australian National University	655,940	634,684	450,607	29,615	0	0	626,325	634,684	450,607	8	8	7
The Flinders University of South Australia	4,223,328	119,580	236,281	0	0	0	4,223,328	119,580	236,281	4	5	9
The University of Adelaide	480,000	548,872	872,403	0	0	0	480,000	548,872	872,403	17	38	46
The University of Melbourne	52,000,000	3,430,660	4,125,115	0	199,515	395,955	52,000,000	3,321,145	3,729,160	40	14	12
The University of New England	6,075,407	6,017,925	6,019,698	251,667	200,000	200,000	5,823,740	5,817,925	5,819,698	62	62	62
The University of New South Wales	4,446,000	1,718,343	2,175,352	0	570,000	1,309,000	4,446,000	1,148,343	866,352	12	24	40
The University of Newcastle	74,000	97,000	170,000	30,000	0	6,000	44,000	97,000	164,000	4	2	3
The University of Notre Dame Australia	0	0	0	0	0	0	0	0	0	0	0	0
The University of Queensland	6,675,190	27,518,304	27,927,009	0	0	0	6,675,190	27,518,304	27,927,009	7	29	26
The University of Sydney	1,823,253	782,834	1,552,114	201,913	35,313	38,154	1,621,340	747,521	1,513,960	32	36	34
The University of Western Australia	62,173	463,500	150,223	0	0	0	62,173	463,500	150,223	4	7	8
University of Ballarat	0	0	0	0	0	0	0	0	0	0	0	0
University of South Australia	136,745	338,684	358,092	23,530	0	0	113,215	338,684	358,092	6	11	0
University of Tasmania	5,000	0	191,500	0	0	0	5,000	0	191,500	1	0	1
University of Technology Sydney	1,256,961	144,181	6,436	0	0	0	1,256,961	144,181	6,436	6	6	2
University of Wollongong	1,810,000	1,546,600	1,649,700	0	0	0	1,810,000	1,546,600	1,649,700	2	2	2
Victoria University of Technology	0	12,500	4,583	0	0	0	0	12,500	4,583	0	1	1
TOTAL UNIVERSITIES: 32	**$82,606,203**	**$45,704,205**	**$47,292,637**	**$536,725**	**$1,004,828**	**$1,949,109**	**$82,069,478**	**$44,789,377**	**$45,343,528**	**241**	**270**	**280**

continued

Table C10. continued

	Gross LOA Income ($)			LOA Income Paid to Other Institutions ($)			Adjusted Gross LOA Income ($)			Number of LOAs Yielding Income		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
Medical Research Institute												
Centenary Institute of Cancer Medicine and Cell Biology	1,200	300	400	0	0	0	1,200	300	400	1	1	1
Howard Florey Institute	1,656,206	350,000	550,000	0	0	0	1,656,206	350,000	550,000	3	2	6
Macfarlane Burnet Institute for Medical Research and Public Health	0	250,000	219,787	0	0	0	0	250,000	219,787	0	1	1
Melbourne Health	n/a	0	164,558	n/a	0	0	n/a	0	164,558	n/a	0	1
Menzies School of Health Research	0	0	0	0	0	0	0	0	0	0	0	0
Murdoch Childrens Research Institute	8,757	1,621,352	1,712,352	0	0	0	8,757	1,621,352	1,712,352	1	2	2
Peter MacCallum Cancer Institute	0	412,000	185,000	0	0	0	0	412,000	185,000	0	3	2
Prince Henry's Institute of Medical Research	0	0	29,051	0	0	0	0	0	29,051	0	0	1
Royal North Shore Hospital	80,000	0	78,000	0	0	0	80,000	0	78,000	2	0	2
Telethon Institute for Child Health Research	790,000	370,000	808,000	0	0	0	790,000	370,000	808,000	3	1	2
Victor Chang Cardiac Research Institute	232,000	60,000	0	0	0	0	232,000	60,000	0	1	1	0
Walter and Eliza Hall Institute of Medical Research	2,284,341	1,670,065	4,421,910	1,371,325	0	0	913,015	1,670,065	4,421,910	4	10	8
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**$5,052,504**	**$4,733,717**	**$8,169,058**	**$1,371,325**	**$0**	**0**	**$3,681,178**	**$4,733,717**	**$8,169,058**	**15**	**21**	**26**
CSIRO	**11,620,000**	**17,115,096**	**12,109,635**	**2,180,000**	**1,900,092**	**1,906,442**	**9,440,000**	**15,215,004**	**10,203,193**	**220**	**294**	**279**
TOTAL ALL RESPONDENTS: 45	**$99,278,707**	**$67,553,018**	**$67,571,330**	**$4,088,050**	**$2,904,920**	**$3,855,551**	**$95,190,656**	**$64,738,098**	**$63,715,779**	**476**	**585**	**585**

Table C11. Licence Income by Income Type: Running Royalties, Cashed-in Equity and All Other Types for Institutions that Responded for Years 2000, 2001 and 2002

	Gross LOA Income ($)			Gross LOA Income: Running Royalties ($)			Gross LOA Income: Cashed-In Equity ($)			Gross LOA Income: All Other Types ($)		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
University												
Australian Catholic University	0	0	0	0	0	0	0	0	0	0	0	0
Central Queensland University	0	20,000	20,000	0	20,000	20,000	0	0	0	0	0	0
Charles Darwin University	0	0	0	0	0	0	0	0	0	0	0	0
Charles Sturt University	0	0	0	0	0	0	0	0	0	0	0	0
Deakin University	0	0	0	0	0	0	0	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0	0	0	0	0	0	0
Griffith University	185,409	0	0	0	0	0	0	0	0	185,409	0	0
James Cook University	24,200	15,237	236,547	24,200	15,237	10,547	0	0	0	0	0	226,000
La Trobe University	44,000	41,880	0	44,000	44,880	0	0	0	0	0	0	0
Monash University	320,000	0	0	320,000	0	0	0	0	0	0	0	0
Murdoch University	n/a	0	234,000	n/a	0	0	n/a	0	0	n/a	0	234,000
Queensland University of Technology	1,283,597	690,593	347,016	62,097	54,809	87,630	0	0	0	1,221,500	635,784	259,386
Royal Melbourne Institute of Technology	175,000	755,828	433,186	0	0	0	0	0	0	175,000	755,828	433,186
Southern Cross University	0	0	0	0	0	0	0	0	0	0	0	0
Swinburne University of Technology	850,000	807,000	132,775	150,000	151,000	132,775	0	656,000	0	700,000	0	0
The Australian National University	655,940	634,684	450,607	287,017	619,684	434,421	0	0	0	368,923	15,000	16,185
The Flinders University of South Australia	4,223,328	119,580	236,281	309,460	96,080	52,645	0	0	0	123,868	23,500	183,636
The University of Adelaide	480,000	548,872	872,403	308,000	348,872	872,403	0	200,000	0	172,000	0	0
The University of Melbourne	52,000,000	3,430,660	4,125,115	2,000,000	3,430,660	4,125,115	50,000,000	0	0	0	0	0
The University of New England	6,075,407	6,017,925	6,019,698	175,407	117,925	119,698	0	0	0	5,900,000	5,900,000	5,900,000
The University of New South Wales	4,446,000	1,718,343	2,175,352	528,000	1,005,813	1,666,481	2,322,000	0	0	1,546,000	712,480	503,871
The University of Newcastle	74,000	97,000	170,000	74,000	97,000	170,000	0	0	0	0	0	0
The University of Notre Dame Australia	0	0	0	0	0	0	0	0	0	0	0	0
The University of Queensland	6,675,190	27,518,304	27,927,009	1,857,190	1,978,113	2,199,101	0	225,000	50,000	4,818,000	25,315,191	25,677,908
The University of Sydney	1,823,253	782,834	1,552,114	1,205,630	606,419	975,244	0	4,350	534,150	617,623	172,065	42,720
The University of Western Australia	62,173	463,500	150,223	62,173	0	73,852	0	0	0	0	463,500	76,381
University of Ballarat	0	0	0	0	0	0	0	0	0	0	0	0
University of South Australia	136,745	338,684	358,092	129,745	338,684	358,092	0	0	0	5,000	0	0
University of Tasmania	5,000	0	191,500	0	0	191,500	0	0	0	5,000	0	0
University of Technology Sydney	1,256,961	144,181	6,436	95,851	144,181	6,436	19,758	0	0	1,141,352	0	0
University of Wollongong	1,810,000	1,546,600	1,649,700	10,000	6,600	24,700	0	0	0	1,800,000	1,540,000	1,625,000
Victoria University of Technology	0	12,500	4,583	0	0	4,583	0	0	0	0	12,500	0
TOTAL UNIVERSITIES: 32	**$82,606,203**	**$45,704,205**	**$47,292,637**	**$7,642,770**	**$9,075,957**	**$11,525,223**	**$52,341,758**	**$1,085,350**	**$584,150**	**$18,779,675**	**$35,545,848**	**$35,178,273**

continued

Table C11. continued

	Gross LOA Income ($)			Gross LOA Income: Running Royalties ($)			Gross LOA Income: Cashed-In Equity ($)			Gross LOA Income: All Other Types ($)		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
Medical Research Institute												
Centenary Institute of Cancer Medicine and Cell Biology	1,200	300	400	1,200	300	400	0	0	0	0	0	0
Howard Florey Institute	1,656,206	350,000	550,000	1,200,000	0	0	0	0	0	456,206	350,000	550,000
Macfarlane Burnet Institute for Medical Research and Public Health	0	250,000	219,787	0	0	0	0	0	0	0	250,000	219,787
Melbourne Health	n/a	0	164,558	n/a	0	0	n/a	0	0	n/a	0	0
Menzies School of Health Research	0	0	0	0	0	0	0	0	0	0	0	0
Murdoch Childrens Research Institute	8,757	1,621,352	1,712,352	8,757	0	0	0	0	0	0	1,621,352	1,712,352
Peter MacCallum Cancer Institute	0	412,000	185,000	0	0	0	0	0	0	0	412,000	185,000
Prince Henry's Institute of Medical Research	0	0	29,051	0	0	29,051	0	0	0	0	0	0
Royal North Shore Hospital	80,000	0	78,000	0	0	0	0	0	0	80,000	0	78,000
Telethon Institute for Child Health Research	790,000	370,000	808,000	0	0	0	0	0	0	790,000	370,000	808,000
Victor Chang Cardiac Research Institute	232,000	60,000	0	77,500	0	0	0	0	0	155,000	60,000	0
Walter and Eliza Hall Institute of Medical Research	2,284,341	1,670,065	4,421,910	2,284,341	0	4,421,910	0	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**$5,052,504**	**$4,733,717**	**$8,169,058**	**$3,571,798**	**$300**	**$4,451,361**	**$0**	**$0**	**$0**	**$1,481,206**	**$3,063,352**	**$3,553,139**
CSIRO	**11,620,000**	**17,115,096**	**12,109,635**	**5,455,000**	**10,676,042**	**10,431,962**	**600,000**	**0**	**0**	**5,565,000**	**6,439,054**	**1,667,673**
TOTAL ALL RESPONDENTS: 45	**$99,278,707**	**$67,553,018**	**$67,571,330**	**$16,669,568**	**$19,752,299**	**$26,408,546**	**$52,941,758**	**$1,085,350**	**$584,150**	**$25,825,881**	**$45,048,254**	**$40,399,085**

Table C12. Inventor Involvement in Licensing for Institutions that Responded for Years 2000, 2001 and 2002

	LOA Count - Inventor Extremely Involved			LOA Count - Inventor Very Involved			LOA Count - Inventor Moderately Involved			LOA Count - Inventor Somewhat Involved			LOA Count - Inventor Uninvolved		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
University															
Australian Catholic University	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Central Queensland University	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Charles Darwin University	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Charles Sturt University	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0
Deakin University	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Edith Cowan University	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Griffith University	18	0	0	0	0	1	0	0	0	1	0	0	0	0	0
James Cook University	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0
La Trobe University	2	1	1	1	0	1	1	0	0	1	0	0	0	0	0
Monash University	16	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Murdoch University	n/a	0	0	n/a	0	0	n/a	0	0	n/a	0	0	n/a	0	0
Queensland University of Technology	0	0	0	0	2	1	2	2	1	0	0	0	0	0	0
Royal Melbourne Institute of Technology	0	7	1	0	0	1	0	2	1	0	2	2	1	0	1
Southern Cross University	n/a	20	20	n/a	0	0	n/a	0	0	n/a	0	0	n/a	0	0
Swinburne University of Technology	0	0	2	0	1	1	0	2	0	0	0	0	0	0	0
The Australian National University	3	1	2	2	1	3	1	0	3	1	0	2	1	0	1
The Flinders University of South Australia	0	0	0	2	0	0	1	0	3	0	4	0	0	0	0
The University of Adelaide	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0
The University of Melbourne	19	15	37	5	0	0	1	0	0	0	0	0	0	0	0
The University of New England	6	0	2	0	0	0	0	0	0	5	2	0	0	0	0
The University of New South Wales	0	0	0	4	4	3	0	20	40	8	4	0	0	0	0
The University of Newcastle	0	1	1	3	0	2	0	0	0	0	0	1	0	0	0
The University of Notre Dame Australia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Queensland	2	0	1	56	10	9	3	4	0	3	1	5	1	1	3
The University of Sydney	3	4	4	12	9	15	12	5	3	4	2	0	0	1	1
The University of Western Australia	6	3	3	3	0	1	0	1	1	0	0	0	0	0	0
University of Ballarat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of South Australia	0	0	0	1	1	0	1	0	1	0	1	0	0	0	0
University of Tasmania	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
University of Technology Sydney	5	3	1	0	0	1	0	3	1	0	0	0	4	0	0
University of Wollongong	2	11	9	0	7	11	0	2	2	0	0	0	0	0	0
Victoria University of Technology	0	4	1	0	0	0	0	1	1	0	0	0	0	0	0
TOTAL UNIVERSITIES: 32	**84**	**71**	**90**	**89**	**37**	**51**	**23**	**46**	**58**	**23**	**16**	**10**	**7**	**4**	**6**

continued

Table C12. continued

	LOA Count - Inventor Extremely Involved			LOA Count - Inventor Very Involved			LOA Count - Inventor Moderately Involved			LOA Count - Inventor Somewhat Involved			LOA Count - Inventor Uninvolved		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
Medical Research Institute															
Centenary Institute of Cancer Medicine and Cell Biology	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Howard Florey Institute	2	2	6	0	0	0	1	0	0	0	0	0	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Melbourne Health	n/a	0	0	n/a	0	0	n/a	0	0	n/a	0	0	n/a	0	0
Menzies School of Health Research	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Murdoch Childrens Research Institute	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Peter MacCallum Cancer Institute	0	5	2	0	10	0	0	9	6	0	5	0	0	0	0
Prince Henry's Institute of Medical Research	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Royal North Shore Hospital	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Telethon Institute for Child Health Research	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
Victor Chang Cardiac Research Institute	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Walter and Eliza Hall Institute of Medical Research	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**7**	**14**	**17**	**0**	**10**	**0**	**1**	**9**	**8**	**0**	**5**	**0**	**0**	**0**	**0**
CSIRO	**62**	**60**	**31**	**51**	**56**	**99**	**16**	**15**	**37**	**26**	**17**	**9**	**13**	**11**	**12**
TOTAL ALL RESPONDENTS: 45	**153**	**145**	**138**	**140**	**103**	**150**	**40**	**70**	**103**	**49**	**38**	**19**	**20**	**15**	**18**

Table C13. Start-up Companies Formed by Institutions that Responded for Years 2000, 2001 and 2002

	Start-Up Companies Formed			Start-Up Companies Formed: Those Having Place of Business in Australia			Start-Up Companies Formed: Those Having Headquarters in Australia			Start-Up Companies that Became Non-Operational at Year End			Start-Up Companies Operational at Year End			Start-Up Companies Operational at Year End with Institution Holding Equity		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
University																		
Australian Catholic University	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Central Queensland University	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Charles Darwin University	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0
Charles Sturt University	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deakin University	1	0	0	1	0	0	1	0	0	0	0	0	1	1	1	1	1	1
Edith Cowan University	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Griffith University	2	2	1	1	1	1	1	1	1	0	0	0	4	2	3	2	2	3
James Cook University	0	0	2	0	0	2	0	0	2	0	0	0	0	0	2	0	0	2
La Trobe University	2	1	3	2	1	3	2	1	3	1	0	1	2	4	6	0	0	2
Monash University	3	1	4	3	1	2	3	1	2	0	0	0	5	6	8	5	0	8
Murdoch University	2	0	1	2	0	1	2	0	1	0	0	0	1	0	1	1	0	1
Queensland University of Technology	0	1	0	0	1	0	0	1	0	0	0	0	3	3	0	1	1	0
Royal Melbourne Institute of Technology	1	1	0	1	1	0	1	1	0	0	0	0	1	2	0	1	2	0
Southern Cross University	2	0	0	2	0	0	2	0	0	0	0	0	2	0	0	2	0	0
Swinburne University of Technology	0	3	2	0	3	2	0	3	2	0	0	0	0	3	2	0	3	2
The Australian National University	3	0	3	3	0	3	3	0	2	0	0	0	8	0	3	7	0	3
The Flinders University of South Australia	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1
The University of Adelaide	0	1	1	0	1	1	0	1	1	0	0	1	0	1	1	0	1	1
The University of Melbourne	0	3	3	0	3	3	0	3	3	0	0	0	3	3	3	2	3	3
The University of New England	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0
The University of New South Wales	1	0	1	1	0	1	1	0	1	0	0	0	8	8	9	8	7	6
The University of Newcastle	1	1	0	1	1	0	1	1	0	0	0	0	1	1	0	0	1	0
The University of Notre Dame Australia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The University of Queensland	2	13	9	2	13	9	2	13	9	0	3	2	15	27	34	15	25	28
The University of Sydney	6	9	3	5	8	3	5	8	3	0	0	0	20	24	25	14	17	19
The University of Western Australia	4	1	3	4	1	3	4	1	3	0	0	0	4	6	3	2	3	3
University of Ballarat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of South Australia	1	1	1	1	1	1	0	1	1	0	0	0	3	1	2	3	1	2
University of Tasmania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
University of Technology Sydney	0	2	1	0	2	1	0	2	1	0	0	0	0	2	1	0	1	0
University of Wollongong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Victoria University of Technology	0	2	1	0	2	1	0	2	1	0	0	0	0	2	1	0	0	1
TOTAL UNIVERSITIES: 32	**32**	**46**	**40**	**30**	**43**	**38**	**29**	**43**	**37**	**1**	**3**	**4**	**82**	**99**	**106**	**65**	**70**	**86**

continued

Table C13. continued

	Start-Up Companies Formed			Start-Up Companies Formed: Those Having Place of Business in Australia			Start-Up Companies Formed: Those Having Headquarters in Australia			Start-Up Companies that Became Non-Operational at Year End			Start-Up Companies Operational at Year End			Start-Up Companies Operational at Year End with Institution Holding Equity		
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
Medical Research Institute																		
Centenary Institute of Cancer Medicine and Cell Biology	0	1	0	0	1	0	0	1	0	0	0	1	0	1	1	0	1	1
Howard Florey Institute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1
Melbourne Health	n/a	0	0	n/a	0	0	n/a	0	0	n/a	0	0	n/a	0	0	n/a	0	0
Menzies School of Health Research	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Murdoch Childrens Research Institute	0	3	1	0	3	1	0	3	1	0	0	0	2	1	2	2	1	2
Peter MacCallum Cancer Institute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prince Henry's Institute of Medical Research	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Royal North Shore Hospital	1	0	0	1	0	0	1	0	0	0	1	0	2	1	1	0	0	0
Telethon Institute for Child Health Research	0	0	8	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
Victor Chang Cardiac Research Institute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walter and Eliza Hall Institute of Medical Research	0	1	0	0	1	0	0	1	0	0	1	0	0	1	2	0	1	2
TOTAL MEDICAL RESEARCH INSTITUTES :12	**1**	**5**	**10**	**1**	**5**	**3**	**1**	**5**	**3**	**0**	**2**	**2**	**4**	**4**	**7**	**2**	**3**	**6**
CSIRO	**13**	**10**	**3**	**11**	**10**	**3**	**11**	**10**	**3**	**0**	**2**	**0**	**n/a**	**7**	**3**	**n/a**	**6**	**1**
TOTAL ALL RESPONDENTS: 45	**46**	**61**	**53**	**42**	**58**	**44**	**41**	**58**	**43**	**1**	**7**	**6**	**86**	**110**	**116**	**67**	**79**	**93**

Table C14. Value of all Equity Holdings at Year End for Institutions that Responded for Years 2000, 2001 and 2002

	Value of All Equity Holdings at Year End ($) – 2000	Value of All Equity Holdings at Year End ($) – 2001	Value of All Equity Holdings at Year End ($) – 2002
University			
Australian Catholic University	0	0	0
Central Queensland University	0	0	50,000
Charles Darwin University	n/a	0	250,000
Charles Sturt University	0	0	0
Deakin University	0	100,000	360,000
Edith Cowan University	0	0	0
Griffith University	96,212	858,142	657,571
James Cook University	409,000	0	20,000
La Trobe University	136,000	130,000	130,000
Monash University	0	0	0
Murdoch University	n/a	0	0
Queensland University of Technology	0	0	0
Royal Melbourne Institute of Technology	102,000	0	0
Southern Cross University	550,000	0	0
Swinburne University of Technology	9,000,000	9,100,000	511,000
The Australian National University	3,288,750	0	0
The Flinders University of South Australia	3,039,156	11,500,000	10,550,808
The University of Adelaide	0	0	0
The University of Melbourne	10,000,000	3,123,000	4,388,000
The University of New England	0	0	0
The University of New South Wales	975,000	554,000	1,142,000
The University of Newcastle	8,000	21,556	172,024
The University of Notre Dame Australia	0	0	0
The University of Queensland	11,330,000	46,408,138	46,430,555
The University of Sydney	10,300,000	7,663,269	8,942,072
The University of Western Australia	20,000,000	11,400,000	11,400,000
University of Ballarat	0	0	0
University of South Australia	2,540,111	300,000	578,663
University of Tasmania	0	0	0
University of Technology Sydney	0	0	0
University of Wollongong	0	0	0
Victoria University of Technology	0	0	0
TOTAL UNIVERSITIES: 32	**$71,774,229**	**$91,158,105**	**$85,582,693**
Medical Research Institute			
Centenary Institute of Cancer Medicine and Cell Biology	0	2,000,000	3,000,000
Howard Florey Institute	3,179,347	100,000	130,000
Macfarlane Burnet Institute for Medical Research and Public Health	0	0	0
Melbourne Health	n/a	0	0
Menzies School of Health Research	0	0	0
Murdoch Childrens Research Institute	4	1,150,000	1,063,300
Peter MacCallum Cancer Institute	0	0	0
Prince Henry's Institute of Medical Research	0	0	0
Royal North Shore Hospital	0	0	0
Telethon Institute for Child Health Research	0	0	0
Victor Chang Cardiac Research Institute	0	0	0
Walter and Eliza Hall Institute of Medical Research	0	0	0
TOTAL MEDICAL RESEARCH INSTITUTES: 12	**$3,179,351**	**$3,250,000**	**$4,193,300**
CSIRO	**29,808,461**	**29,826,668**	**18,993,649**
TOTAL ALL RESPONDENTS: 45	**$104,762,041**	**$124,234,773**	**$108,769,642**

Appendix 5: Start-up companies formed in 2001 and 2002

Start-up companies formed in 2001

	Start-up companies	ABN	Website
Universities			
Central Queensland University	Hortical	26 096 908 379	n/a
Charles Darwin University	In Motion Technologies	36 097 618 794	n/a
Griffith University	Antenova Limited	n/a	www.antenova.com/
	Calytrix Technologies Pty Ltd	75 092 706 217	www.calytrix.com/
La Trobe University	Scribe Associates	90 102 334 716	n/a
Queensland University of Technology	Farmacule Bioindustries Pty Ltd	74 097 607 102	www.farmacule.com/
Royal Melbourne Institute of Technology	Inquirion Pty Ltd	86 099 026 329	www.teratext.com.au/
Swinburne University of Technology	3DCD Technology Pty Ltd	98 097 037 897	n/a
	OpalTree Systems Pty Ltd	42 084 265 949	www.opaltree.com/
	Sportsbet21 Pty Ltd	13 097 104 633	n/a
The Flinders University of South Australia	Medimolecular	46 080 212 193	www.medimolecular.com
The University of Adelaide	Australian Centre for Plant Functional Genomics Pty Ltd	98 102 769 808	acpfg.com.au
The University of Melbourne	Chirogen Pty Ltd	36 094 253 531	www.chirogen.com.au
	Cryptopharma Pty Ltd	77 094 788 897	n/a
	Lignotek Pty Ltd	29 097 868 632	n/a
The University of Newcastle	Virotarg	43 097 910 793	www.tunra.com
The University of Queensland	Bireme Pty Ltd	48 097 185 487	n/a
	CBIO Limited	76 094 730 417	www.cbio.com.au/
	Coridon Pty Ltd	11 092 318 771	www.coridon.com
	Dentil Pty Ltd	33 096 360 397	n/a
	Fultech Pty Ltd	36 097 861 357	www.fultech.com.au
	Genedimmer Pty Ltd	47 096 366 951	n/a
	Kalthera Pty Ltd	48 098 597 776	n/a
	Mimetica Pty Ltd	29 097 251 315	n/a
	Myalgen Pty Ltd	n/a	n/a
	Nanomics Pty Ltd	47 095 979 409	n/a
	Protagonist Pty Ltd	44 098 201 944	www.protagonist.com.au/home.htm
	Vacquel Pty Ltd	53 098 451 033	n/a
	Vascam Pty Ltd	65 096 686 172	n/a
The University of Sydney	Accumine Pty Limited	n/a	n/a
	Evisense Pty Limited	18 097 664 009	n/a
	Glycemic Index Limited	53 096 268 147	ww.gisymbol.com.au/pages/gi.asp
	Mathstatica Pty Limited	54 097 821 737	www.mathstatica.com/
	Medsaic Pty Limited	38 094 771 141	n/a
	Monoclonal Partnerships Inc	n/a	n/a
	Nuflora International Pty Limited	80 093 570 579	n/a
	Ucom Six Pty Limited	22 097 664 027	n/a
	Ucom Two Pty Ltd	79 093 569 781	n/a
The University of Western Australia	Sanctuary Systems	28 096 256 263	n/a
University of New England	Genetic Solutions Pty Ltd	93 084 104 076	www.geneticsolutions.com.au
University of South Australia	Knowledge South P/L	66 094 320 000	n/a
University of Technology, Sydney	Avolution Pty Ltd	31 098 348 960	www.avolution.com.au/
	PacMab Pty Ltd	89 097 244 721	www.pacmab.com
Victoria University of Technology	TradeData International Pty Ltd	22 097 364 700	www.tradedata.net/
	Transol Pty Ltd	65 095 538 828	www.transolgroup.com/
Medical Research Institutes			
Austin Research Institute	Arthron Pty Ltd	92 093 947 294	www.primabiomed.com.au
	Cancer Vac Pty Ltd	64 096 859 513	n/a
Centenary Institute of Cancer Medicine & Cell Biology	Centec Limited	31 097 085 722	www.centec.biz
Garvan Institute of Medical Research	G2 Therapies Limited	53 092 835 740	n/a
Murdoch Children's Research Institute	Antisense Therapeutics Ltd	41 095 060 745	www.antisense.com.au/
	SciBAC Pty Ltd	ACN 095 622 272	n/a
	Technology Commercialisation Entity Pty Ltd	ACN 096 522 628	n/a
Walter and Eliza Hall Institute of Medical Research	Genera Biosystems Pty Limited	69 098 663 837	www.generabiosystems.com/

continued

Start-up companies formed in 2001 continued

	Start-up companies	ABN	Website
CSIRO			
	ATM Casting Technologies Pty Ltd	n/a	n/a
	Ausmodel Pty Ltd	ACN 097 124 171	n/a
	Barley Plus Pty Ltd	91 099 123 930	n/a
	Entocosm Pty Ltd	ACN 101 060 468	n/a
	Evogenix Pty Ltd	33 097 483 068	www.evogenix.com.au
	Ingredia Pty Ltd	99 099 359 378	n/a
	JoinTechnology Pty Ltd	35 098 535 267	n/a
	Plantic Technologies Ltd	71 097 524 975	www.plantic.com.au/
	Polymer Surface Technology Pty Ltd	13 100 542 229	n/a
	ValueMetrics Australia	NSW BN 97 802 056	www.valuemetrics.com.au/
Cooperative Research Centres			
Australian Photonics	Cactus Fibre Pty Ltd	62 088 828 791	n/a
Polymers	Advanced Polymerik Pty Ltd	38 099 108 755	n/a
	Ceram Polymerik Pty Ltd	62 099 100 240	n/a
Sustainable Tourism	Decipher Technologies	89 096 375 218	n/a
	Earthcheck	53 096 375 067	n/a
	Green Globe Asia Pacific	**40 088 863 021**	**n/a**

Start-up companies formed in 2002

	Start-up companies	ABN	Website
Universities			
Curtin University of Technology	Cool Energy Ltd	49 097 929 461	n/a
Griffith University	GLYKOZ Pty Ltd	88 099 594 153	www.glykoz.com/
James Cook University	Global Cardiac Solutions Pty Ltd	46 102 773 571	n/a
	Toxitech Pty Ltd	41 096 646 310	www.toxitech.com/
La Trobe University	Cyclagen Pty Ltd	84 103 230 922	n/a
	JustSys Pty Ltd	87 099 379 521	www.justsys.com.au
	Phytogene Pty Ltd	n/a	n/a
Macquarie University	BioTrack Australia Pty Ltd	28 100 295 252	www.biotrack.mq.edu.au
	Fluorotechnics Pty Ltd	27 099 098 192	n/a
	Microbiogen Pty Ltd	91 096 059 700	n/a
	Pacific Gem	n/a	n/a
Murdoch University	Paragen Pty Ltd	44 101 213 405	n/a
Swinburne University of Technology	Genos Pty Ltd	24 101 697 803	www.genos.com.au/
	MiniFAB Pty Ltd	53 100 768 474	www.minifab.com.au/
The Australian National University	Lipotek Pty Ltd	51 098 824 509	n/a
	Phenomix Corporation	15 099 209 033	www.phenomixcorp.com/
	Ringwood Superbrasives Pty Ltd	98 100 072 848	n/a
The University of Adelaide	Australian Centre for Plant Functional Genomics Pty Ltd	98 102 769 808	n/a
The University of Melbourne	Calibre Biotechnology Pty Ltd	51 101 665 945	n/a
	Hatchtech Pty Ltd	84 098 559 409	n/a
	Pargenex Pty Ltd	84 096 155 243	www.pargenex.com
The University of New South Wales	Cystem H Pty Ltd	n/a	n/a
The University of Queensland	Adipogen Pty Ltd	13 102 901 397	n/a
	Antepodi Technologies Pty Ltd	80 103 037 378	n/a
	Combinomics Pty Ltd	19 101 922 070	n/a
	Cyclagen Pty Ltd	84 103 230 922	n/a
	Diabax Pty Ltd	95 102 887 687	n/a
	Haempatch Pty Ltd	58 101 719 804	n/a
	Nephrogenix Pty Ltd	n/a	n/a
	Q-Pharm Pty Ltd	70 100 312 418	www.qpharm.com.au
	QRXpharma Pty Ltd	16 102 254 151	www.qrxpharma.com
The University of Sydney	Matrix Gene Pty Ltd	76 102 266 624	n/a
	Nucleous Pty Ltd	n/a	n/a
	Ucom Seven Pty Ltd	31 102 498 546	n/a
The University of Western Australia	Alzhyme Pty Ltd	13 102 832 995	www.alzhyme.com/
	Paradigm Diagnostics	67 100 393 048	n/a
	Vitrostone	20 101 787 759	n/a
University of South Australia	Iterative Connections P/L	29 102 670 182	www.iterativeconnections. com/
University of Technology, Sydney	AIMedics Pty Ltd	n/a	n/a
Victoria University of Technology	**3DCD Technologies Pty Ltd**	**98 097 037 897**	**n/a**

continued

Start-up companies formed in 2002

	Start-up companies	ABN	Website
Medical Research Institutes			
Austin Research Institute	Oncomab Pty Ltd	61 101 431 814	n/a
	Pan Vax Pty Ltd	23 100 033 583	n/a
	Xeno Trans Ltd	74 097 283 166	n/a
Macfarlane Burnet Institute for Medical Research	Hepitope Pty Ltd	65 102 740 867	n/a
Murdoch Children's Research Institute	Ausgenics Pty Ltd	16 096 588 395	n/a
CSIRO			
	Agri-Best Ingredient Technology Pty Ltd	76 096 320 820	n/a
	Enterprise Measurement Group Pty Ltd	54 104 931 820	n/a
	Windlab Systems Pty Ltd	26 104 461 958	www.windlabsystems. com/
Cooperative Research Centres			
Bioproducts	Ingredia Pty Ltd	99 099 359 378	n/a
Cast Metals Manufacturing	Castcoat Pty Limited	82 104 697 547	n/a
Clean Power from Lignite	Laser Analysis Technologies Pty Ltd	86 097 210 234	www.bestlab.com.au/ laser_analysis.htm
Distributed systems Technology Centre (DSTC) Pty Ltd	Wedgetail Communications Pty Ltd	68 095 116 751	www.wedgetail.com
MicroTechnology	MNT Innovations Pty Ltd	57 104 932 201	n/a
Other Publicly Funded Research Agencies			
Australian Institute of Marine Science	Toxitech Pty Ltd	41 096 646 310	www.toxitech.com/