COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

HOUSE OF REPRESENTATIVES

STANDING COMMITTEE ON SCIENCE AND INNOVATION

Reference: Business commitment to research and development in Australia

FRIDAY, 7 FEBRUARY 2003

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BY AUTHORITY OF THE HOUSE OF REPRESENTATIVES

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STANDING COMMITTEE ON SCIENCE AND INNOVATION

Friday, 7 February 2003

Members: Mr Nairn *(Chair)*, Ms Corcoran, Mr Evans, Mr Forrest, Ms Grierson, Mr Hatton, Mr Lindsay, Mr Tony Smith, Mr Ticehurst and Dr Washer

Members in attendance: Ms Corcoran, Mr Evans, Mr Lindsay, Mr Nairn, Mr Ticehurst and Dr Washer

Terms of reference for the inquiry:

To inquire into and report on:

The international comparisons indicate that while the public sector in Australia supports R&D at an impressive level, business investment is less impressive.

With particular consideration of:

the R&D drivers in small and medium sized business;

the needs of fast-growing companies; and

the considerations by which major international corporations site R&D investment,

the committee seeks to address three questions.

What would be the economic benefit for Australia from a greater private sector investment in R&D?;

What are the impediments to business investment in R&D?; and

What steps need to be taken to better demonstrate to business the benefits of higher private sector investment in R&D?

Committee met at 7.39 a.m.

Participants

BRASTED, Dr Stuart Ashton, Chief Executive Officer, Micronix Pty Ltd

CHARLTON, Mr Ian Mark, Chairman, Ecosol Pty Ltd

CROOK, Dr Patricia Ann, President, Business SA; and Managing Director, Dynek Pty Ltd

FERGUSON, Mrs Debra, Director, Ferguson Australia

GODDARD, Dr Chris, Chief Operating Officer, Gropep Ltd

HARRISON, Mr Tony, International Marketing Consultant, Yaltara Software Pty Ltd

HOLDING, Mr Barry Anthony, Managing Director, Rubber Mines Pty Ltd

KIKKERT, Dr John Nicholas, Chief Executive Officer, Comlabs Systems and Designs Pty Ltd

LIM, Dr Kim, Rubber Mines Pty Ltd

NELSON, Mrs Ann, Director, Biotechnology Infrastructure, Bio Innovation SA

ROHRSHEIM, Mr Geoffrey Roland, Managing Director, Strategic Data Management Pty Ltd

SWINCER, Dr Andrew Geoffrey, Managing Director, Flexichem Pty Ltd

VERMA, Dr Meera, Chief Operating Officer, BresaGen Ltd

WILSON, Mr Neil, Chief Technical Officer, Agrilink Holdings Pty Ltd

CHAIR—I welcome you all to the roundtable meeting of the House of Representatives Standing Committee on Science and Innovation. This meeting is a little different from the way in which the committee normally conducts its hearings. Over the last six months or more, we have conducted a series of hearings in relation to this inquiry. Those hearings have usually been much more formal, with individual companies, organisations, government bodies et cetera making submissions, coming before the committee, giving evidence and being questioned.

We have had some fairly extensive hearings and have had in the order of 80 submissions to this inquiry. Having reviewed the submissions and the evidence provided to the committee to date, the committee has decided to finish the hearings with some more information from the small to medium sized enterprises about the on the ground happenings with research and development and some of the government programs related to that. So we are having a series of roundtable meetings, such as this morning, where we try to get representatives from a reasonable cross-section of companies, ranging from microcompanies to medium size

companies covering various industries, to sit around and discuss some important issues in research and development and investment in research and development.

Representatives from each organisation will have an opportunity to speak for about three minutes, then we will proceed with some discussion. This is not a public hearing, but the proceedings will be available publicly on the *Hansard*. This is a House of Representatives committee, and the members comes from both sides of politics. The committee system of the parliament is one of the most powerful aspects of the parliament but, unfortunately, it does not get much publicity. Nine times out of 10, members from the government and opposition work extremely well together to produce some great reports which invariably get picked up by governments of all persuasions. We will start with Dr Verma.

Dr Verma—Thank you for inviting me to the committee hearing to speak to this topic, which is important for a company like ours. BresaGen is a biotech company, and all the money we raise we actually spend on R&D. So it is not that we do not spend enough money on R&D; we basically spend everything and then some on R&D. We are one of the companies that is trying to add value to the intellectual property that is developed in this country. The first question that you are asking is: does R&D actually add value and how does it add value? That point has been debated in many fora. In the pharmaceutical industry you just need to look around you and the new generation drugs are basically being developed mostly in the US, with some in Europe.

Australia is increasingly becoming dependent on importing these products. If you keep doing that, at some point you are going to be dependent on bringing in these products and paying premium prices for them. One of the ways around that is to contribute to that part of the economy. It is a fairly rapidly growing part of the economy worldwide. One way to do that is to have wonderful research conducted in publicly funded institutions so that a lot of taxpayer money goes into basic research around the country. You then need to bridge an enormous gap to take that basic conceptual research into robust practical development and then eventually into the manufacture and production of products. That is where companies like ours come into it. We are trying increasingly to take concepts and ideas with great therapeutic potential and actually go through that really difficult high-risk product development phase and take them into products that you could then benefit from locally, internally, but also in terms of exports.

One of the key issues that face us in terms of the key impediment to research is access to funds and cash flow. A successful biotech spends money faster rather than slower because that is the only way you are going to get to the end point quickly enough to actually make a difference for the diseases you are looking at and not be overtaken by the competition around the world. So you need to be reasonably well cashed up and spend the money properly so you end up with a robust product at the end of the whole process. The regulatory hurdles in this area get higher and higher each year and they are driven, quite rightly, by a public that wants more assurance that what they take will work and will not cause them any harm. That obviously means that the product development gets more expensive year by year and needs to be funded adequately and not done on a shoestring, as we managed to get away with a few years ago.

The strange situation is that, with a company like ours which is not actually making a product, you still find yourself paying certain taxes which can be quite onerous. I am referring to a state tax and not a federal tax—so I am not sure that you can do anything about it, but it is one of the issues that face us. Things like payroll tax really make no sense to companies like us. Every dollar counts so, while it is easy to say that a big part of our turnover does not go on

payroll tax, it is the difference between me being able to buy a piece of equipment that I really need today and having to say, 'I am sorry guys, but this is going out and you cannot buy that bit of equipment.' So it is a significant issue for groups like ours.

The other thing is that we accrue a large amount of tax losses and we sit on these tax losses until we make some money. Once we are making money, we have succeeded. We have cut out all the risk and we are through that whole process. It is in that high-risk phase, when we are trying to raise as much cash as we possibly can to prosecute the ends to arrive at a point where we are making money, that the cash is really important to us. A number of concepts have been tried out over the years and some of them have been successful and some of them have not worked so well, but I think it is really worth while looking at how you could convert today's tax losses into some benefit today, rather than waiting until we have succeeded or sold on the technology and so someone else benefits from our tax losses. So that would be the key point. The Start grant scheme is very useful for groups like us. I have to say three cheers for having got that started again, because it really helps you leverage your cash position today. A dollar for dollar doubling of the capacity to use the money you raise is very important for getting private investors to put money into projects.

CHAIR—I now invite Dr Chris Goddard from Gropep to speak.

Dr Goddard—Thank you for the invitation. Meera has done a fantastic job and I echo just about all the sentiments that she put forward. Gropep is also a biotechnology company in the same area of developing intellectual property, taking it through to the end of clinical trial stages and then licensing it on. There are a few things I would like to add. Meera did not say exactly how expensive these exercises are. The average cost of developing a biotech drug is about $US800 million from start to finish. So you can see that you need a hell of a lot of capital to be able to do that. Quite frankly, that capital is not available in Australia under the current system. There is no way we can access that sort of capital to be able to take any of our ideas all the way through to market.

What we have to do is partner. The only way we can do that is by doing exactly as Meera said. We do all the work to the highest possible standards. It is hugely expensive—that is the key. Even to the end of a phase 2 clinical trial, at which point you have not yet got into the very expensive bit, you are talking about $US100 million to do it. In order for companies like BresaGen and Gropep to be really successful we need to either access that level of capital or we need to partner with a US or European based multinational, without exception. That is very difficult from here—there is no question about that.

We spend between 25 per cent and 40 per cent of our total revenue on R&D. We would like to spend more. One of the things I would like to add is that in many instances our shareholders, depending on what type of shareholder they are, do not want us to spend more on R&D. There is a part of our business which is making money. We manufacture products in Adelaide and sell them to the US and Europe. Some of the shareholders say, 'Well, why don't you just do that? Why do you want to spend any of that money on further R&D to make more money?' They just do not get it. I do not need to add much more to what Meera said. She covered most of the points I would raise.

CHAIR—Excellent. I now invite Ann Nelson from Bio Innovation to speak.

Mrs Nelson—Thank you, Mr Chair. I offer apologies from Dr Jurgen Michaelis, the Chief Executive Officer of Bio Innovation, who at short notice was unable to be here. Bio Innovation is another biotechnology company, but with a difference. It was set up by the South Australian government in 2000 to assist in developing a bioscience industry in South Australia. Our target was to create 50 new companies in the state in 10 years with estimated new employment of about 2,500 bioscience people. So I am talking to you from quite a different perspective to the previous two speakers. So far in this state we have achieved a focus on two things: recognising that we want to build the pipeline of research that is coming out of the research institutions, particularly the public institutions, and looking at how we can increase commercialisation of that activity. That ties in with what the commercial companies have been doing.

What is of interest to the committee is that we have undertaken some quite detailed research of the quality and quantity of science in South Australia. I have some literature that we have put out as a summary of that research. Let me summarise this for you. From an international database we looked at all research publications that came out of South Australia over the last five years and were published in international journals. We have identified that 60 per cent of total research published from South Australia, including all research from the humanities areas, is bioscience research. We found that one-third of that research is co-authored by international researchers. So the level of collaboration in the bioscience industry here is very high. I think that augurs well in relation to the comments that Dr Goddard made about the importance of collaboration in the industry. That is starting very early on.

We also looked at the quality and quantity of that South Australian bioscience research compared with what was coming out of Australia as a total. We found that it represents about 14 per cent of all the bioscience research in Australia by publication. We did some analysis of the quality, as I said, and we benchmarked that against international quality standards. We found that, on average, our bioscience research in South Australia is about six per cent above world average across the board. From that we can, with confidence, assure you that the quality of the research that is undertaken in this area in South Australia is consistently high. That is of comfort to those organisations issuing funding to the research community—NHMRC, ARC and those sorts of institutions—to know that that money is being well spent.

What we are going to do next, and we have not completed this work, is to look at how we can track the number of patents that are lodged and accepted. The early indications are that the level of research and development spending is not necessarily being matched by the conversion into commercial activity—and I think this is typical in Australia in this industry—and that is where our focus will need to be. I do not believe that South Australia is necessarily any different in that respect from the rest of Australia, but it is an issue that we need to deal with.

Bio Innovation provides the specialised business development services to researchers to help them set up new companies. To that extent, one of the important things that we have done from a research and development point of view is to look at how long it takes to extract research and development out of public institutions and put it into a commercial environment. That has required some revamping of the intellectual property policies at a state government level, and I understand that some similar work is being done at the federal level. That is an important issue.

The other thing we have recognised—and it has been acknowledged—is that the support for research funding through the Biotechnology Innovation Fund and R&D Start grants has been very useful and helpful for this industry for some of the early start-up companies. We facilitated

that and we are pleased to have the opportunity to use those sorts of funds. Regarding the strategies that we need to keep in mind—and this, perhaps, reinforces and gives you some additional background to the companies here—Dr Verma was mentioning the importance of companies needing to focus their spending on R&D. What the government is trying to do to support that is to ensure that the infrastructure that supports excellent science here is in place. It is something that most states that are interested in bioscience are looking at.

What we have been able to do for the companies—for example, Gropep, BresaGen and Bionomics—is look at assisting those companies to create new laboratory, manufacturing and administrative facilities in this state. We have created about 15,000 square metres of new lab and admin space. We have clustered that infrastructure into a new precinct, Thebarton Commercial Bioscience Precinct, and we believe that is a really tangible way at state government level that we can support the companies so that they do not have to focus their spending on bricks and mortar to the extent that it is slowing up the contribution to their research program. That is an overview of what we are doing. We are very supportive of the companies here. We want to help people here to grow and we want to support their activities.

CHAIR—I now invite Dr Swincer to speak.

Dr Swincer—Thank you for the invitation. We are not a biotechnology company; we are a specialty chemical company. We specialise in technical chemical products, and the company is a privately owned South Australian company that comes out of a research background. I have been in research for over 25 years and, at one stage, was an academic and started a research group that grew into a private company and two research groups which are still going. Over the years, we have been involved in a number of government schemes which really have contributed to the growth of the company. I will mention some names from history, like the teaching company scheme and the GERD scheme. Now there would be Start Graduate, Core Start and, of course, the tax deduction schemes—the 150, 125, 175 per cent schemes.

We are not a big company because we focus very much on technical products. We have 10 staff but, of those 10, six have degrees in chemistry, two have masters level degrees and two have PhDs. We very much orient our company around technical products, new products and meeting specific industry needs. We spend quite a large percentage of our turnover on R&D and we have two focuses. One is to develop cutting edge new products, and we are particularly involved in the textile industry in that area. The other is to develop industrial products that are specific to customer needs. In that, we would service larger companies which basically do not want to get involved in specialty chemicals. Our customers include Castrol, Solar Optical, Barker, General Electric and G.H. Michells. They basically want to get on with their business and have the specialty development work done at our end.

We focus particularly on the silicon industry. Now that Dow Corning has kindly stepped aside as a manufacturer in Australia, we are essentially the biggest manufacturer of silicon chemicals in Australia. We would like to say thank you to the government for what it has started, and I believe that we have rewarded the country in terms of the money that is put in, taxes paid, wages and so on, and that is an ongoing thing. The other thing I should mention is that it is quite a big export component. Over 50 per cent of what we make would end up overseas. That is certainly the growth area of the business.

CHAIR—I now call on Dr Kikkert.

Dr Kikkert—Comlabs is a company supplying software to the mining industry. Our software is used at about 80 per cent of the mine sites in Australia in areas ranging from laboratory data management to product tracking systems. BHP Port Hedland ships all the iron ore from their Western Australian operation through our systems. We also have a major system at Dalrymple Bay coal terminal, which ships a lot of the coal from North Queensland. Our company has grown by a factor of three over the last two years, and our staff numbers have gone from 25 to 45 people. We are the recipient of a Start grant. The Start grant will make the difference between us plateauing, which we can now see because the products we have will only take us so far, and us making it to the next level, which will be the international level.

The recent growth has been achieved by very actively pushing export markets—taking the know-how we have built up in Australia overseas and selling systems at mines in the Andies which are more than 4,000 metres high, coal mines in Colombia—a great place to go—and iron ore mines in Brazil. The Start grant will allow us to get a totally innovative product which we would not have been able to fund out of our own resources. The difference will be between a company that will be a nice business five years from now and a company that will be quite exciting and of world leading standards.

Our product is BulkTrak. It will allow Australian mining companies to become more efficient as they optimise their return from their products, because it tracks their mining products as they come out of the ground. Mining companies can have tens of millions of dollars tied up in piles of dirt sitting around the place and going all the way to a shipping terminal. As a result of the path we are on—the excitement and the possibility of this new product—we are going through a merger with a UK based company which is three times as large as we are and which has branches around the world—four in South America and two in North America, Europe and Asia. The headquarters of this new company are likely to be in Australia because, in many ways, we offer the excitement and the potential.

A critical issue for our company certainly is the Start grant. Without the grant we could not have done it, and we just squeaked in before the pause in the grant. We went through some anxious moments while we waited for things to be signed. The other part that is quite important to us is business migration. We are looking for highly skilled, specialised people. As part of our project we have engaged a number of people, particularly from South Africa, where there is great mining know-how. It is still a long, painful process to get these people who are critical to our process to Australia. I ask that we find ways of speeding up the ways in which we can get these critical people into our country to help our projects.

CHAIR—Thank you for that. You made a couple of points that have certainly been made in other fora as well. I now call Ian Charlton from Ecosol.

Mr Charlton—Thank you for the invitation. I represent Ecosol. It is a small group of Australian, New Zealand and, now, UK companies. We provide technology that takes pollutants out of a variety of waste water, stormwater and sewage. We are a South Australian based company. Since the very early days, we have had quite a bit of involvement with AusIndustry and the different grant schemes. We have received a Start grant, a concessional loan and a COMET grant, and obviously we avail ourselves of the 125 per cent tax concession. R&D is the lifeblood of our company. As was mentioned earlier, you tend to plateau with existing products, so you need to constantly be putting money into R&D. About 12 to 16 per cent of our sales

would be R&D, and that is a big commitment every year, but it has to be made to keep new products coming through.

We have had very good experiences with the Start grants. The concessional loan has been a bit mixed. Our first grant application took 10 months. I would like to see it being more user friendly and taking less time, although I understand that there is a lot of money involved, so you have to ask the right questions. But we found that we started getting the funds virtually when the project was complete, and that is not the way it should work. You need the money up-front or during the project.

COMET: we have had some money from that. We have found that to be a very good and flexible program. The tax concession I think has been mentioned a few times. You want the money. It sounds very bad, but you want the cash. You do not want tax relief. It does not do anything for you because you do not see it for another two or three years. We are all—hopefully not for too long—in loss making situations and the tax relief does not really help that much. So I am glad to see that it has now been moved so that you can take it as a cash rebate.

Another issue is shareholders not wanting to put in more money into R&D, so where do you get your funds? I think that is very important. But my main feeling is that any government assistance should be directed at most probably the smaller, the clever, the innovative companies for whom $200,000 or $300,000 is the bee's knees. It is a lot of money and it can help them go further, and I think that is where you will get the maximum returns on any investment from government money.

CHAIR—Thank you. We are missing one person from Bionomics, so we will move to Stuart Brasted from Micronix.

Dr Brasted—Thank you for the invitation to speak today. In many respects, Micronix could be a case study for what it is like to get a concept from the light bulb and the activity in the basements and living rooms of the originators into commercial reality. It does not seem that long ago that that is where we were. The first Start grant that we got in 1999 was the difference between our survival and another few years of coasting or not progressing.

We are in the business of assisting clinicians in the placement of tubes and catheters. This is a very large market for us. In cardiovascular catheters alone, there is a market for these catheters at about $3.4 billion worldwide. Our product uses a little radio transmitter on the tip of a catheter and a receiver unit to give a graphic display of the placement of the catheter as it is going through the body. So the advantages to the user are time saving, a saving of money and additional safety. In real time, a user can see what they are doing with a catheter as it is being placed into, let us say, the alimentary canal or into a vein or the heart.

The company as it is at the moment consists of about five core people and we have got a whole multitude of contractors around us. The Start grant that we got in 1999-2000 was for $180,000 and, as Chris said, this amount of money was the difference between our survival and not. We have been fortunate in winning a COMET grant which has enabled us to leverage the product to the stage where we have a concessional loan and more recently we have been fortunate enough to get a grant from the Commonwealth for a second product, and we expect that we will have two products by this time next year in the marketplace.

I would just like to echo the sentiments that Dr Verma and others have expressed in regard to the spend rate and the need for cash obviously in an enterprise such as ours. The startling thing for us as we have progressed through our Start grant's project was that it seemed great that we had 50 per cent of our project paid for but over and above that there were the running costs of the business. In addition to that there was a GST component to be found on top of the eligible payments. By the time those were taken out, the actual quantum of funds that was available for contractors and spending on real research had shrunk considerably in proportion to the overall project.

CHAIR—Dr Patricia Crook from Dynek Pty Ltd.

Dr Crook—Mr Chairman, thank you very much for the opportunity to speak to you today. This morning I represent Dynek Pty Ltd, which is my family owned business. We have been manufacturing in Australia since 1974. We are the only suture manufacturer in Australia and we export to 29 countries. My company works with the universities, the CSIRO and the clusters here in South Australia. R&D into sutures is a constant ongoing process. Our first R&D started in Europe many years ago and the Japanese were very helpful in getting us started. However, things have moved on since then.

I think there are major issues with companies trying to start in Australia. I have a word I hate; it is 'thresholds'. You go into a bank and you are either too small or are you too big. You go to government agencies and you either do not employ enough people or you do not do enough turnover. So I really think that we have to remove the word 'threshold' from our vocabulary because it is an impediment to SMEs doing business.

As a company, we are moving forward but we are also finding that we are having to go outside of Australia now to Korea to do some of our research because, believe it or not, the Koreans have a very strong research base. I am also speaking on behalf of the South Australian employers chamber Business SA, where I am the president. I will read from a prepared statement because I think what I have to say on this issue is important.

SMEs investing in R&D need the capacity to maintain an adequate cash flow, be able to develop and retain ownership of their intellectual property and be able to move fast enough to make quick responses to market opportunities. It is too hard to expect that these businesses can generate sufficient profit and revenue to have the capacity to fund R&D. The tax concessions are an important component to enable cash to be retained in the business. Also a number of small grants that have been available in the past were a good source of support. A few thousand dollars is extremely useful to tide over a business until they can reap the return on their R&D projects. However, these have dried up over time and the focus has been on more substantial sums of money well beyond the capacity of many SMEs.

It is quite daunting for SMEs to gain grants, especially when they are learning the requirements, filling out the papers and following through. They often do not have the human resources to do this. The application process and reporting can be onerous. Once located, however, the assistance from the Commonwealth has been useful. These sources are preferred over accessing venture capital too early in R&D phase. SME intellectual property rights may have to be traded off to offset the higher risk for the investor.

One of the areas that I think we should be looking at is superannuation funds. Too much of our superannuation funds go offshore and are not reinvested in this country. I think we have a great opportunity to use those funds more effectively to grow our business in this country. CRCs are inappropriate mechanisms for SMEs and R&D. Their focus tends to be long term, and SMEs are unable to sustain investment over long periods. SMEs aim to gain more responses to market opportunities. Part of their competitive advantage is their ability to move quickly and to come up with innovative solutions to problems. With respect to public research agencies, SMEs do not tend to have the size to influence or leverage off the research agencies. Access is not generally business friendly. We have a culture in this country that big is beautiful, and we are an SME country. We have about 600,000 businesses in this country, and three-quarters of them are SMEs. Yet when we go and talk to government about SMEs, they glaze over.

I am also the inaugural chair of the Australian Health Industry Association and I am now still on the board. That is based here in Adelaide. One of the issues we sometimes forget is regulatory affairs. If we are in the health industry or in an organisation where we have to have regulatory affairs, the costs can be huge. The set-up to get my CE mark for the European Union was $250,000. It costs me $100,000 every year to maintain that system. So, besides having the Therapeutic Goods Administration in Canberra, who want to get their slice of the action, we now have the CE mark in Europe and the FDA in America—and these, of course, are all non-tariff barriers. Each time a country wants to make life a little difficult for us in Australia they raise the bar, and they do it with regulatory affairs.

So the concept of running a business these days is not only about employing people. The other issues coming in are to do with maintaining the quality systems. Years ago it was ISO 9000. It has gone far beyond that now. If our companies want to expand, they are our major issue. I think Australia has about $4 billion in R&D in many areas. For companies like Siemens in Germany that is their whole issue: $4 billion goes into R&D. We have to seriously look at how we want to place ourselves in the future.

CHAIR—Thank you. Tony Harrison from Yaltara Software.

Mr Harrison—I am here somewhat by default. My association with Yaltara Software began about 18 months ago. My role is that of a management consultant specialising in the marketing and commercialisation of IT product and other product into the global market. Dr Davor Hribar, a fairly well-known oral and maxillofacial surgeon in Adelaide, has been responsible for putting together a software program for implantology, patient education and treatment planning. It has been quite a leading-edge breakthrough in IT in this area. We have been very successful in the last 18 months in getting the product to market and finetuning it in a practical manner. We have now developed distribution in Europe, albeit in its early stages, with product being sold; and we have finalised distribution in North America, with product in the market and being sold. So the early stages of what has been a massive undertaking for a single man in terms of funding the operation have been quite extraordinary.

I think Dr Crook has stolen a bit of our thunder with what she has put forward because she has ranged fairly widely indeed over the subject. There are a couple of other issues. Because I am in the management field and have been involved since the early days of the Small Business Corporation, I have seen a lot of things happen with SMEs. SMEs are a pretty wide-ranging area in terms of turnover as well. In South Australia in particular, we have many SMEs at the

bottom end of the scale and many more in the micro range. I believe that is where our inventive source is. It is all coming from individuals, basically. This reinforces what Dr Crook has said.

The issues I find are that many of these people are totally unaware of the programs that are available and, when they do find them—through a consultant, an accountant or some other professional in the field—it is all too hard. It is not easily accessible for them. We get back to what Ian Charlton said: by the time they get to it and put the application in, 'Too late!' she cried, the race is over and they ran last. I have seen this repeat itself many times. Ease of access is absolutely critical to the whole issue, along with a clear understanding of what their responsibilities are and how these things can help them. Maybe this can be made available more easily through the business units supported by government in various states. But I suspect that third party people can make this information readily understandable and readily available to the SMEs and the micro operators out there.

Currently, I am working with four other people who have all been extremely inventive and have come up with products that they have commercialised themselves and got into the market. Nobody knew about it. What we are seeing with some of these people is very exciting. Their product has a world application, but they have not thought about that. They did not even know it was there. We have just done a job and gone out and commercialised it, and we are on the road.

I look at it from the point of view of how we can get this information out there to these people on the programs that we have. For SMEs and microbusinesses, the 125 per cent R&D incentive really is not an incentive at all. That is like being rewarded for success down the track. It is not really engendering an inventiveness or commercialisation prerogative. I do not know that I can say much more except that I concur with an awful lot of what has been said around the table. It is ensuring that the people out there in the field clearly understand what is available to them and how they can utilise it to grow their businesses and, therefore, meet the objectives of government by increasing our exports, increasing our employment et cetera. I will leave it at that.

Mr Rohrsheim—I am the founder of Strategic Data Management. We started four years ago next week. We have over 40 staff now. We are here in Adelaide. We are an IT business. We focus on integrating very old systems with the newest and latest technologies. For businesses in Australia, we offer an alternative to very large IT expenditure on new systems. In late 2001, we received a COMET grant for $80,000 when we were a company of about 13 people. We now have over 40 people—we peaked at 46 staff last year. That was for a product that we are selling now. We made our first sales overseas at the end of last year. The biggest part of our business—the majority of the $5 million turnover last year—is services.

My comments today are around the R&D tax incentive, which we actually find quite useful, because we actually make money, and the fact that it does not apply to services. Everyone today has talked about products. If you are actually creating a clever service which you have based on a hell of a lot of research and development around the world on, in our case, old systems and new systems, it does not apply. If you look at the wording of the R&D tax incentives stuff and take it to the letter, then, as we read it and as our lawyers read it, you cannot get the money, which is a real shame. The services industry in Australia is quite big, and is growing very quickly, yet we cannot get these grants to help us in the services industry. Other than that, we spend 15 to 20 per cent of our own money on R&D every year, but that is R&D that you would

not see in your figures because it is not money that I can claim. I am the major shareholder, so it is my money I am spending on that R&D.

The COMET grant was very useful to us, because it is commercialisation of emerging technologies, so it was more aimed at the fact that we have a product and we just need to get it out there. We are a technology company; we know that we have built the product but we need to make everyone aware of it, market it and commercialise it. That was very useful. We got that in 2001, and it has been very useful to us. But $80,000 is a very small amount in four years of the turnover we have had. That is all I have to say.

Mr Wilson—Thank you for the opportunity to talk to you today. Agrilink is a company that is proudly at the grubby end of the R&D spectrum—though perhaps not quite as grubby as Ecosol. It is a company that has been established to provide instrumentation for the agricultural industry, specifically in the areas of soil moisture content, soil salinity and micro weather stations. These instruments have been development in the form of probes and weather stations. We add telemetry to those instruments, send the data back to a central collection point, then concentrate that data in our offices down in Hilton. We then combine that data with data and information from other sources such as aerial photographs, satellite imagery and the like. We then put that all together in a software package called AgWISE that we sell back across the Internet to the growers and the farmers.

To support that, we have a group of agronomists who can provide agronomic advice to the farmer on what this information means and how they might improve their management practices to achieve certain outcomes in their crops. In the other phase of our business, we are looking at water use efficiency and water balancing. The information comes to us from some 2,500 probes all over Australia and about another 1,500 probes that are predominantly in California in the United States. It all comes back to our central office and then, as I say, goes back out over the Internet.

We are a very rapidly growing business. The biggest growth potential for our company is in the United States and we are making inroads into the distribution of our equipment there. We are a company of about 45 people, again very rapidly growing in that area. We were the recipient of a Start grant for the development of the salinity probe and a nutrient sensor. The salinity probe has been patented, so we have seen a real commercial outcome from the grant, and we are still working on the nutrient sensor.

In addition to endorsing all of the comments from the previous speakers, the point I would like to make is that, in our experience with applying for and reporting on the Start grant, we struck some opposition to the concept of taking an idea, putting it into practice and then putting it into a form that is suitable for the application. That was considered somewhat mundane and a little bit outside the scope of the R&D Start grant. The point I am making is this. I am not looking for funding of commercialisation; that is clearly outside the scope of the R&D Start grant. But having the idea is about five per cent of the effort required. Getting it to work is perhaps another 10 to 15 per cent. Getting it to be a product that you can then get into the marketplace is a real challenge, and that is underestimated, in my opinion.

Dr Lim—For the record, I am the technical adviser rather than the financial adviser. From the discussion I have heard so far, Rubber Mines is on the small end of the scale of the businesses that are represented here this morning. In that regard, we are basically in the forefront of

inventiveness to be in the business. What we are in is basically the development and manufacture of a process that allows the use of discarded tyres for the lining of dump trucks. The lining of dump trucks is nothing new. What is new is the ability to use discarded tyres which, when adopted properly, have the right properties to withstand wear far in excess of what normally available rubber can do. Through discussions with industry, I understand that the life of our product is at least four to eight times that of other products. Coupled with that is the great advantage that we are providing to the environment and, I guess, the community through the reuse of discarded tyres. It is well known that discarded tyres are a bane of the environment—an eyesore—if you leave them around and are costly if you have to discard them either by burying them or using them in reefs for fish habitat.

We believe that that invention is a very good one, and we are very thankful for the receipt of the COMET grant that has allowed us to commercialise the idea. To date there are a number of patents pending on that invention. The take-up on the truck lining business is progressing very well—another thank you for the contacts that we have been able to develop through the committee.

What is also coming through the research programs that we have been able to run is another by-product which we believe can be very useful not only in not being discarded as a by-product but also in allowing us to conserve a very precious product—water. Currently, to reduce evaporation in a large surface of water, the water businesses or even some dam owners can provide flexible covers over these surfaces. Unfortunately, these covers do not come cheaply. The material has to be of a particular type—UV resistant, strong, able to withstand wave action and so on—and anchors have to be provided so they can be put in place where necessary. We believe that our by-product can be processed to provide another outcome which will act the same way as the covers that I have been talking about. I believe the people who may be interested in this area could be the water businesses and maybe the farming community in general. Initial discussions with some water business representatives indicate that they are very interested and they will trial the idea. A stumbling block could be funding. That can be a difficulty for us because we are a small organisation and commercialisation is an issue that we continually grapple with because we spend all our earnings on research. What I would like to say over and above what I have already said is that, unlike others who have had difficulties with the application process for funds, ours has been reasonably trouble free and rapid.

CHAIR—Thank you all for that. We have had a good cross-section of issues from a variety of industries. I will start off by throwing something in for comment. It was alluded to by a couple of people in their presentations. Dr Swincer put it in his submission to the inquiry. He talked about one of the major impediments being the fact that in a lot of companies the people looking after the money or making some of the business decisions often do not understand the need for and the importance of the R&D side of the business. I think it was Dr Goddard who mentioned shareholders, as well. While it is probably not a huge problem in a very small business, because often the managing director has several hats and is involved in those decisions, once a business starts to grow a bit—and it does not have to be all that big—you often get those different levels of responsibility.

One of the major companies that put in a submission has just put in a supplementary submission to the inquiry—which my committee will hopefully accept at the end of this meeting because it has only happened in the last week—in which it raises the prospect of dealing with tax concessions in a different way. Tax concessions have been mentioned today as

sometimes not being all that useful, particularly if you are in a loss situation and have to wait several years, although part of that has been addressed with the most recent changes whereby companies that are not in a profit situation can now get a rebate, which they could not before.

The idea that was raised with me by this company was that, instead of the tax concession happening at the tax end of the company, it basically would come in as income to the company. So the tax concession gets grossed up and, therefore, the balance sheet can show it as income. The people at the board or management level would then see the benefit of that R&D and would argue that there is a greater chance of that amount being applied to the R&D budget, whereas if it happens when the tax return is done, a whole section of the company does not see the benefit: it is something that happens with the accountants and the tax people. I will throw that open for comment. Dr Swincer, as you have raised this as a problem in your submission, would you like to comment on that possible solution?

Dr Swincer—I have not heard of that solution before but I would like to make some comments. Most of the people here are from the technical end of companies and from smallish companies who see the value of R&D. We deal with a lot of companies which are either shareholder owned or large accountant-run companies. R&D is something off the side that we spend some money on if times are good. If times are hard, the labs fall off the end, the research staff are on the dole and that is the end of it. That is anathema to me because we believe in R&D. Having seen that happen a number of times, I raised the issue. I think that as a country we have to change that whole psyche. We have to have a bank of R&D knowledge that we can call on. It is no good if research scientists say, 'This is too insecure, I am going overseas' or 'I am giving up, I am going to become a computer consultant or something and use my knowledge not in R&D doing cutting-edge stuff but in servicing companies.'

To illustrate the importance of this, I will give a case in point. We are in silicones—we make industrial silicones. A company called Aortech came to us, wanting us to make a very special silicone that they can make into a urethane silicone, which is used in prosthetics—brand-new prostheses for knee replacements, hip replacements and those sorts of things. They keep coming back to us and saying that we are the only place in Australia that can make it. I say that there is no money in it for us but we will do it anyway, because we have that bank of knowledge. I am trying to make the point that we have to have a technical bank of knowledge. How you change management, I am not sure. I think it is an education process whereby non-technical management have to see the value in the idea that you have put forward.

CHAIR—Does anyone have any comments on that?

Mr Rohrsheim—On the accounting side, it is very relevant who your accountants are and where you are in their pecking order. In one year our tax return for a previous year was done in May of the following year. Talk about not being visible to management or the board: they will not see the effect of the tax R&D up to 11 months after it has actually occurred, which is way too late. It goes right back to the accounting standards and accounting teaching. There are all these financial measures which boards and managers look at for companies and those measure turn on investment and all the ratios that they rattle on about, but not one of them talks about R&D. It just does not count. R&D affects all those ratios because it is a cost in their view.

Dr Swincer—I think the 150 per cent or whatever scheme—I think 125 per cent, by the way, is too low—is a very good scheme for mature companies. I can understand people saying, 'We

need the money up front.' But for a company that is making a profit, it is a great way of giving an incentive to invest in R&D.

Mr Charlton—I want to say something on that as well. Being a smaller company I do not want to say that the R&D money should not go to larger companies, because it should go anywhere where good R&D is being undertaken, but often you see, with the assistance, $2 million and $3 million grants being given out—I do not know the numbers exactly. A smaller company will look at that $2 million or $3 million and think: 'If only they gave that to 10 smaller companies, it would be that much more useful.' I actually think that a lot of the good R&D is done by the smaller companies anyway. So I would pick up on that—I think that it is the case. Tax concessions may well be the way to do it for the bigger companies, but the smaller companies need something upfront to help.

Dr Verma—I think that, rather than the size of the company being the issue, it really comes down to where you are doing your product development. If you are working in the therapeutic area, you could be a very small company like us, but you actually need more than $2 million or $3 million just to get you off first base. A toxicology study will cost you half a million dollars.

Mr Charlton—Yes, I agree with that. The companies I have seen were more on the manufacturing side. I understand that the money involved in your business has to be—

Dr Verma—If you are inventing widgets, a little money can go a long way. If you are dealing with regulators, a lot of money goes a little way.

Dr WASHER—On this issue, I did not quite comprehend the proposition. You mean you put it into accrual accounting so that it shows the shareholders that, on an accrual accounting basis, they have a write-off factor which has a value at this level. The only problem is that, for a lot of these companies, if they are small they will not get that far. They will come into a dissolvability situation, where they are distributed back to the shareholders in a liquidity settlement. If, in some way, they had the money in cash they could survive.

Mr MARTYN EVANS—This is the major accounting firm proposal that was circulated the other day, isn't it?

Dr WASHER—That is right.

Mr MARTYN EVANS—One of the big five accounting firms circulated last week a proposal where the actual benefit gets cashed up and sent in as a cheque, so that the board sees it as a receipt to the company, in effect, and it then becomes income. I cannot remember which accounting firm it was—it was one of the major ones.

Dr WASHER—It was Pricewaterhouse.

Mr MARTYN EVANS—Yes that is right. One of the major accounting firms, Pricewaterhouse, sent it as an idea to rejig the proposal so that the same money in effect just gets rewashed as a cheque or a receipt and, rather than a tax concession which is then accounted for in a way which is not noted properly, management sees it as a receipt or direct income. It is then perceived in a much better way and shareholders see it is a much better way.

CHAIR—They argued that, in dealing with a lot of companies, the opportunity for that benefit to then be redirected into further R&D would be a lot greater than if it happens at the tax end of the cycle.

Dr Verma—I just want to raise the point that you raised earlier about the tax concession rebate issue. When we first saw that, we were really excited. We thought that it went some way towards addressing the issue of dealing with our tax losses. But, when you look at the fine print, you hit the threshold that Patricia is talking about. For companies like ours, the turnover level is just ridiculous. You get penalised for doing research, because, as soon as you do more research, you cannot actually get the money. You wonder whether you should shrink back to being tiny and get the cash.

CHAIR—It was designed for small firms that are really starting up in those early stages, to help them from a cash flow point of view. Certainly it has done that. I think the evidence that the committee has got, so far, has indicated that change, which took place less than two years ago, has been well received. But I take your point in that respect.

Dr Verma—It is a good idea. You should extend it, maybe.

Dr Crook—The first rule of business is that you should never employ an accountant as your CEO.

CHAIR—Do you want the committee to put that in as a recommendation?

Dr Crook—Accountants have a blind spot—not only to R&D, but also to environmental issues and regulatory affairs. It took me a long time to convince my accountant that regulatory affairs was the whole nucleus of our business. I think that, with the triple bottom line rearing its head in the future, it is not only going to triple—we are going to have a long line on that bottom line in the next 10 years.

I think it is about education; it is about telling the accountants. The Pricewaterhouses and the KPMGs are fine, but most of us cannot afford them. We need to be in a situation where the honest on-the-ground accountant really starts to understand what business we are in—and it is not easy. It is not about going out there producing a pound of butter—ours is much more involved. We need to educate those people and get them on board. Once we start to do that we will be a little bit further down the track.

CHAIR—Fortunately, there are no accountants amongst the committee members.

Ms CORCORAN—I was.

CHAIR—Sorry, Ann, of course!

Ms CORCORAN—I remind Dr Crook that *Hansard* is alive and well behind you. They will be reading it. It has been really encouraging to hear the comments that have been repeated around the table and it is useful to have them reinforced for us. I wanted to pick up on two small ones that got mentioned in passing: one was intellectual property rights, and I think it was you, Dr Crook, who talked about the need for IP.

Dr Crook—No.

Mrs Nelson—I did.

Ms CORCORAN—I was wondering if that is a real issue of concern to people around the table. My second question was that I want to follow up briefly on your point of business migration and whether that is an issue, too, that is experienced elsewhere.

Dr Goddard—I can comment on IP; IP is crucial to us. The bottom line is that it is very expensive to maintain. There are two ways to gain intellectual property: one is to develop it yourself—an expensive business—and the other way is to end-licence it and, of course, whatever you pay to someone for their intellectual property comes off your bottom line when you finally commercialise the product. It is as simple as that. In the biosciences it is key. Without intellectual property protection, you have no business at all—absolutely zero.

Mrs Nelson—Could I clarify that the point I was making was, while you have a body of high quality research coming out of public institutions, you are seeing discontinuity when it is then transferred into a commercial environment. It is only when commercialisation occurs that you are looking at wealth in the state and the potential for growth of new companies and the potential for development, in this instance, in the bioscience industry. We recognise that there are two issues. One is that you want to have a strategy in place whereby the opportunity to take innovative IP out of the public sector and put it into a commercial environment can happen in a time frame that allows the momentum researchers have generated to be maintained. Our observation of the existing policies that were in place here—and I am sure Dr Rathjen can confirm this—that it is taking something like three or four years to take IP out of a public hospital and in-licence it into a new company—an unacceptable time frame. Policy change was really trying to bring on board—and this is part of the education process—the legal counsel within government and institutions in terms of them wanting to have some return for their institutions; rewards for the scientists who were involved in the research; and still making technology transfer a proposition that is sustainable and manageable from a new company point of view. We were doing that. The other point is that we would also like to have an environment at a state level—and I guess it applies nationally—where there is some consistency across institutions. At this stage, every university will have its own IP policy, a state government will have theirs, individual institutions within the public sector framework will have different ones and so, too, CSIRO and the big federal research institutions have theirs. It becomes a bit of a mismatch of rules and requirements that must be very confusing for companies when they are trying to in-licence information. Our dream in this state is to have a set of strategies that are consistent across all of the public institutions.

Dr Goddard—One of the difficulties that we find—I speak from personal experience because I spent half my career in the public sector and half in industry—is that the primary objective of someone who is in R&D in a university or research institute is to publish their work as fast as possible, because that is what they are judged on. The way to get the next grant, and the next one, is the number of quality publications. The opposite is true when you want to develop intellectual property. You need to put everything in place to protect that work before you can speak out. That is the biggest disconnection. We talk to a lot of institutions and universities about pieces of work they have done and we find that, for instance, a post doctoral fellow has been allowed to go to a conference and present a small part of their work. It does not matter where the conference is—it does not have to be international—that work is then

worthless; we cannot touch it, it is in the public domain and someone else can pick it up. That is a problem that has to be solved and it could be solved quite easily by the universities placing more emphasis on the research people getting a patent in preference to a publication.

CHAIR—Is there a difference in Australia compared to any other country, or do other countries have the same problems?

Dr Goddard—They have pretty much the same problems.

CHAIR—Did somebody want to comment on Ann's point about business migration?

Dr Kikkert—We are always short of good people; I think every company is. In South Africa there is a large number of high-quality people who are very keen to come to Australia, particularly you are active in the soft-earth mining industry. South Africa is a great source of high-quality people; people we cannot find down here. I recruited somebody in, I think, August and that person is coming to Australia in the first week of March. That is the timeframe we are looking at. I believe it is possible to get a temporary work visa but I believe also that the time it takes is almost as long. We managed to speed that process up a few times by getting the South Australian government to help us get the approval process going. We give thanks to the government for that. Also, our guy was told early in January that it would be another 12 to 14 weeks. I sent a fax to the Australian High Commission in Pretoria and as a result he got his nod a lot faster than that. So, again, there are people out there helping the process but it still takes six or seven months and we wanted to have the guy on the ground working for us probably three months ago.

Dr Brasted—With respect to intellectual property rights: a subject that I have not had direct experience of—Dr Goddard has referred to it—is the motivation for somebody in an institution to actually take on and develop a product. This is where, at the origin of the idea, the stakeholders of the intellectual property need to be identified and motivation provided to them to go forward and run with it. The policies of the institutions in which these people work need to be carefully scrutinised. I believe you have a big contrast—others might like to comment—between the environment in Australia and that in the US, for example, where at institutions such as Stanford the money creates a situation like bees around the honey pot, looking for ideas. In the US there is a connection with the capital that is needed to cash up these ideas and get them going that does not exist in Australia.

A similar thing applies at an individual level for somebody trying to get the product up that risk curve, from the light bulb to something that can be presented, where they can say, 'This is my idea.' They have to go to the patent office and get a provisional patent, which covers them for 18 months. This is not a very costly exercise. But, if they do not get the product to a stage where it can attract some money within that time, there is a risk of losing it. So there is only a relatively small window of time in which somebody can actually maintain ownership of it at a private level. This a major obstacle. There is a labyrinth of obstacles to be negotiated to maintain that idea, develop the idea and develop the business model around the idea. It is probably serendipity rather than enterprise that makes the difference, so that the idea actually survives through to the stage where R&D money can be thrown at it.

Dr WASHER—If I may go back to Dr Kikkert, I have a question about business migration. John, what is the slowdown? What is the process? Can you explain it to me? I thought if you

could not get that type of person in Australia by advertisement you could immediately apply for that person to come in. I would imagine you would need clearance on the person for security reasons, but why is there this month after month delay? What is the delay mechanism? What is the excuse for that?

Dr Kikkert—The mechanism is that, once we had decided to engage the person we then had to find out about the process, fill out all the paperwork and submit it for processing—that was after we had run the appropriate advertisements. We then submitted them via the local government and I think it went through the regional migration scheme. That took about four weeks to come through. We then got the clearance for that. When the person was notified he then had to start his proper migration application in Johannesburg and go through police clearances. From the time he got his application in to the time they told him they were looking at it, they told him that would be another so many weeks. I think a period of 12 to 14 weeks was quoted. It really adds up. There are so many steps, starting on this side, getting it approved for business, or in this case regional, migration, then getting all the forms in, getting police clearance, certificates et cetera.

Mrs Nelson—What we are hearing is that it is really, to some extent, a project management issue. There is quite a variation in the time that it takes, partly depending on whether you can actually start to overlap some of those processes that are necessary through the system. We have had some anecdotal evidence of where visa approval has been considerably faster than the experience that Dr Kikkert is mentioning; in other instances it can be considerably slower. It may be held up at some point because the documentation that the applicant needs to present in terms of qualifications or background is delayed or difficult to find. So the time frame is variable.

I would have to say that the positive discrimination that the federal immigration department has afforded South Australia through the introduction some years ago of the regional sponsored migration scheme, which Dr Kikkert referred to, has been enormously helpful. It means that at a local or state government level, or at a company level, we can nominate and fast-track some of those applicants. Even though there is a sense of frustration that it may take time, my sense is that it is considerably faster than what you may have found five years ago, when it was not uncommon to think about 12 to 18 months—or even 24 months in some instances—for some people to be processed.

There is always room for improvement but I think we have made some progress. Certainly the state government has recognised that it can fast-track some of the regional sponsored migration applications by having experienced migration officers employed at the state level to mirror some of the processing activities that are necessary through the federal system. It is getting better, I believe.

Mr LINDSAY—I have two matters. First, thinking about your small businesses and the large amounts of cash available in Australian superannuation funds, would there be any benefit in your businesses having access to the cash? If so, how might this inquiry recommend to the government what the government might do in providing that access? You can say no, if you like.

Dr Verma—The answer to the first part of your question is definitely yes. In relation to the second part, I think we would need to think of a mechanism that actually gave some benefit back to the funds.

Mr LINDSAY—You would have to.

Dr Verma—That is a little bit harder to come up with.

Mr MARTYN EVANS—It has to be on the best rate of return for the funds. It is the superannuation of the employees, you and everyone else; it has to be the best rate of return the funds can get.

Dr Verma—It has to balance out to be that.

Mr MARTYN EVANS—Yes. Otherwise you are depriving people of their subsequent retirement money. That is the danger always. That is the issue that has to be thought through.

Dr Verma—It is the risk element.

Mr MARTYN EVANS—When you say that funds must direct their money in a certain way, it always has to be remembered that this is money that people will rely on later in retirement. So it has to be, in the judgment of the trustees, the best rate of return they can acquire anywhere in the world.

Dr Crook—They are not getting any return at the moment.

Mr MARTYN EVANS—They are getting negative returns. Some of them—many of them—are getting negative returns right now. But presumably, when the trustees make their decisions, they make them on the basis that it is the best return they think they can get. If they are making them on the basis that it is the worst return they think they can get, you should get new trustees. If they are making it on the best decision they think they can get—they are not perfect, presumably—is that decision to invest it in your work? That is the question.

Dr Verma—This goes back to the risk end of research and the benefit that you perceive in the R&D. It is a long-term benefit.

Mr LINDSAY—And that might have to be underwritten by the government.

Dr Verma—Right. This is what I was going to say. I was going to bring in this whole issue of tax losses. There is actually a huge potential asset—unrealised asset—that sits with most of us. Some of us may fall over along the way but others will eventually get to that point. Is there a mechanism for marrying the funds there with the tax losses that some of us sit on? Even if the IRR is not quite the same in the time frame, you can have a way of offsetting that through the tax system. I think that is what we are getting at. Overall, the net benefit of R&D is obvious to most people. It is how you capture it at the microlevel with individual components that is difficult—and at the small company level. If you are looking at a super fund which is spread over a number of different companies, they will do essentially what they are doing now, which

is lose on some and gain on some. They will be on a different roulette wheel; that is all. Instead of being on the open market roulette wheel, they will be on an R&D roulette wheel.

Dr Crook—I want to talk about one of the things that we could do to make it work more successfully. Government should not be dealing directly with the businesses. It should go through business organisations, associations or clusters. Business will evaluate much better than you will. They will get to the crux very quickly; they will identify industries and companies that will move forward. Then for those that do not fit that particular profile that we are looking for—we might have a model—we will find other ways of financing. But let business do it. If government does it directly to one business, you will not be successful. If business does it for you, we will have a successful outcome.

Mr LINDSAY—That is not superannuation though. Were there any other comments on superannuation?

Dr Crook—That is not super; that is on the funding of it—where the funding goes. It should go into associations.

Mr Harrison—I want to say this wearing my other hat as a marketing management consultant. I agree with what Dr Crook is saying about the issue that we are talking about in terms of the availability of funding. We really are talking about more than just development funding when we talk about microbusiness. We are talking about businesses that turn over less than, say, $2 million a year, but they are extraordinarily inventive people.

My experience is that they know very little about the game of obtaining funds. Their first move is to go to a bank. Dr Crook commented about thresholds and the impediments they place in the way. Dr Crook is also talking about delivering what you are trying to deliver. If you are trying to do it through government dealing directly with businesses of that micro size, all of a sudden you have a big problem, because people just do not understand. You need an interpreter in the middle. If you are talking about access to funds from the superannuation schemes, for the microbusiness that really would be something of an incentive. But they still will not understand how to access it. If you try to do it from government to micro, it will not work. It would have to go through a filter somewhere to make sure that it was understood and it was clearly used well. When you are talking about what Dr Verma was talking about in utilising the tax loss issue in some sort of guarantee to the funds themselves, that makes a lot of sense as well. I can see that there is some potential in that area, but how you deliver it will be absolutely critical. It is the interpretation, if you like, of what the government is trying to put forward and what the micro guy is looking for. If you cannot get that right, it will not work. That is my experience.

Dr Verma—I just have a very quick comment. I think the pooled development funds go a little way to the sorts of structures we might be talking about that have some assurances but have some concessional elements to the investment. I think that is really what you were saying with super. If there were a concessional element to the investment, it would underpin their risk.

Mr LINDSAY—Yes, but SMEs could use super funds if they were available. Is that right?

Mr Harrison—Yes, of course.

Mr LINDSAY—Let us light you up a bit more. Tony, this comes from you. Here is the thesis: in developing and innovating, because Australia is such a small market, unless you go to the world, you should not start in the first place. As small businesses, how do you feel about that thesis?

Dr Crook—No problem.

Mr Harrison—It is not a problem. They just need to know how.

Mr LINDSAY—No disagreement?

Mr Harrison—No disagreement.

Mr LINDSAY—Fantastic.

Dr Crook—Most businesses that start up these days have an export focus. Most people want to grow. We have only got 18 million people in Australia and three million in New Zealand. What market do we have? All we are doing, if we are coming out with a competitive product, is trying to take from the multinationals in this country. We cannot do that. We have to be export orientated and global right from the very beginning. To do that, we have some really good bases to work from at the moment.

Just coming back to funding in super, Macquarie Bank rang me two years ago because I had pushed at some of the unions and said, 'Listen, guys, you should be reinvesting in your own future.' Macquarie was quite prepared to set money aside to develop in the health industry. In the health industry we import $9 billion in medical consumables every year. If we could have import replacement attached to that, you would get your money back many, many times over.

Mr MARTYN EVANS—I just want to get some idea of the impact on small businesses of some of the development costs of the Start grant applications. I have spoken to some people in Adelaide who have submitted these grant applications for reasonable sized grants and have been very happy with them when they received them, but some have said that sometimes it has been quite far down the track when they have got the money. That is all very well if it has gone well, but sometimes that does not happen. They have shown me the application process, which has ended up looking like a phone book. They have related that sometimes this has been quite an intense sort of process for them, and it obviously looked fairly expensive. Does anyone want to comment on the actual cost and time impact of doing that?

Dr Goddard—We have had four or perhaps five R&D Start grants over the years. The first one was quite onerous, but we actually got better at it. It is just practice. It is like anything else; if you have one and it works, you will go back and apply for another. We were very disappointed when the whole scheme ran out of money this year.

CHAIR—It was too successful.

Dr Goddard—No, there was not enough money in it; that was the problem. In general, the scheme is reasonably good. We do not find it too onerous. The people who have dealt with our applications and subsequent changes to most of those applications—because R&D never goes

along the path that you think it is going to go along—have been accommodating to the changes we have wanted and have been, in general, pretty good.

Mr Harrison—We have talked about companies like Gropep et cetera—what I will call the intellectual end of town—that might have some resources to be able to handle these applications. The mum and dad companies—I will use the colloquial term—out there do not have the resources and they do find it extremely difficult to cope with these things; it is very off-putting. We need to create documentation for people in what I like to call the LCD format—the lowest common denominator format. If it comes with advisory documentation on where to go for assistance, such as the business units in these areas where the people know how to do it—and we get back to the interpreter level again—then we will start to see some successful applications coming from some of the mum and dad operators out there who have great ideas.

Dr Kikkert—Actually, the one we have got is the second R&D Start grant I have been associated with. Before, I was with a robotics company in Queensland that had one for a robotics system for the medical industry. Start grants, like business migration, is probably very easy once you have done it. The problem is that most small companies have to start on the process and learn the process, make all the mistakes and do all the hard work in between. The availability of help from good consultants, as for most issues, is important, because they have done it before. The whole process took us about nine months, which actually meant a delay in the process. We had the grant approved, but it was not signed for close to three months because of the freeze on funding. But it worked all right for us. I would like to commend the staff at AusIndustry here in Adelaide, whom I find extremely helpful and good to work with. I think the routine administration of the scheme is precise enough but not extremely onerous, so we can actually concentrate on doing the research rather than doing the administration.

Mr MARTYN EVANS—Can I just get one quick comparison from somebody who has done an NHMRC grant for about the same amount of money as their R&D Start grant? Plenty of people here will have had both an NHMRC and an R&D Start grant. Is there some sort of general comparison between the two in terms of bureaucracy?

Dr Verma—Without getting into the details, first of all you cannot get the quantum of money from NHMRC that you can from Start.

Mr MARTYN EVANS—Yes, I know, but in terms of the bureaucracy?

Dr Verma—I terms of the process, the issues you are hearing here probably reflect people who are used to applying for grants for government funding for research. It is like everything: processes are difficult, but they do not find the process too onerous and they understand the time involved, because most NHMRC and ARC grants will take you the same quantum of time. Anyone who has no experience with that sort of grant application process would find the whole process incredibly onerous.

Mr MARTYN EVANS—That is what I was thinking. But would you say they are comparable in terms of the commitment required to the process?

Dr Verma—Yes, probably, except that you need a lot more commercial number crunching put into an R&D Start grant than you ever would into an NHMRC and ARC grant.

CHAIR—Dr Goddard has a comparison as well.

Dr Goddard—If you were doing it on a strict return on investment basis, I would go for R&D Start every time.

Mr Rohrsheim—I would like to comment on that. We found it extremely easy to get our grant, because we outsourced to somebody who knows exactly how to do this. In Adelaide there is a place called the Centre for Innovation, Business and Manufacturing, formerly known as the Business Centre. It is fantastic. They have a string of people who do just this. They will do it on the basis of whether you actually get the money. They will punt as well, they will do it on the basis of a fixed fee or they will do a percentage of both.

CHAIR—Who runs that?

Mr Rohrsheim—The state government.

Mrs Nelson—The Centre for Innovation, Business and Manufacturing, CIBM, is a part of the state government that deals with the small business community. It has a range of programs from which funding will be provided to small businesses to assist them to get expert support. Certainly it would be able to advise about consultants who can put these types of applications together very effectively and very successfully.

The experience of Bio Innovation, which is predominantly with Start grants, COMET grants and BIF grants, has been very much that we provide hands-on expert help to assist people with putting those applications together. We will make recommendations if we do not think the application is going to be sufficient in terms of the guidelines, and we advise people to wait until they have done some more work. Mention has been made of the cost of preparing applications. We recognise that the time needed for a small organisation to put that together is quite substantial, and in some instances we will provide, as CIBM does, funding into the organisation to help them deal with the cost of putting their application together.

We also have recognised that, every time a new fund is put into the offering, if you like, for industry, there are always gaps. It goes back to the threshold issue that Dr Crook mentioned before, and I think it is certainly about recognising that small business in South Australia is often micro, even from the point of view of what is a national average size for business. We then have to recognise to some extent the idiosyncrasies of a small regional economy and address that. What we have done is create a mirror image to BIF at the state level, but with thresholds that are lower for much earlier stage research groups, so that we are actually pre-preparing them with a very simple application form and much smaller amounts of money. We are pre-preparing them to do some more research and perhaps to get some trials completed, for example, to be able to compete at what is considered to be the minimum threshold level.

That has been an issue in this state across a whole range of industry R&D funds in the past. It is that issue of some people being just too small in size, expertise and internal resources to get to what is considered to be the minimum threshold. I guess flexibility is really the answer in trying to recognise that.

Mr Charlton—Going back to what Geoff was saying about the COMET scheme, I found that much easier than the R&D Start fund. I have done three or four now, and you do get better.

It is not so much that the R&D one is too onerous. If you look at it in simple dollar terms, we have just got a grant in now for $400,000, and I am thinking of all the work I have had to put into that. To get $400,000 on my bottom line I have to get sales of a million, or whatever it may be. I have to work just as hard to get that, so I think it is most probably not as big a problem. We found the first one we did very difficult, and it went for a long time, but that was maybe because we were a little naïve as well. I think that the effort you have to put in is most probably fair, when you talk about the money that you can get on the grants schemes.

Mr TICEHURST—I just want to make some comments. It is very interesting listening to the range of views that we have had from both large and small businesses. I have had the opportunity of working in the manufacturing industry in large, medium and multinational businesses and then moving and setting up a service business I started individually, so I can understand where you are coming from, Geoffrey. The other thing that I noticed is that there is a lot of bias against small companies, and no doubt that is also added to by the bureaucracy and the way things are presented. I think you have only got to look at the *Tax Pack* to see how helpful that is—you start off with a thick book. Before, you used to just fill it out on a couple of sheets of paper and you did not have to worry about it.

But the other thing is that there are a lot of impediments, I have found, that seem to be introduced by larger business with the idea of keeping smaller companies under control. It also happens with government departments. I have been in the electrical industry, and all the clients I dealt with were large organisations. One issue that came along some years ago was quality control. Patricia, you mentioned the barriers with the likes of the ISO 9000. When I first saw them I thought those QA schemes were an impediment to small businesses. They were designed by the larger companies. It seemed to be a panacea for all sorts of ills. But many production processes and many products are inherently quality controlled, because if they do not do certain things along the process they do not have a product. You mentioned also that internationally you are facing these other certifications and regulations. Do other people around the room have problems with the ISO 9000—that is, the quality control type implications?

Dr Verma—We certainly do on the health side of things. I, like Patricia, sit on the AHII board. In terms of the regulatory environment, from a biotech perspective you have the OGTR, which is another bureaucracy that has been introduced recently. Whereas in some countries they have a number of these bureaucracies folded into one bureaucracy, we have multiple independent bureaucracies that we have to work with here, and each country does use it as a non-tariff trade barrier in various instances. You have different rules; you have to repeat trials; you have to put things in a different format to take them to different regulators. It is quite an interesting exercise.

Mr TICEHURST—Do you think government should be doing something in, for example, the trade area to try and level off some of these?

Dr Verma—Very much. ICH has been ongoing for quite a while now—that is the international harmonisation scheme. Australia has made quite a bit of headway with Europe through mutual bilateral agreements recognising good manufacturing practice. CGMP is probably one of the largest non-tariff trade barriers at the moment. They have made bilateral agreements with Europe but the US still pretty well sits on its own and imposes FDA GMP compliance at different levels. But in terms of harmonisation, New Zealand is a classic. We are supposed to have harmonisation of labels with New Zealand. We have got this eensy-weensy

little product that treats horses. We have it registered here but we took it across to New Zealand and we got this whole thing back saying, 'I am sorry but you are going to have to resubmit all these dossiers.'

Mr TICEHURST—So that did not fit within the CER with New Zealand?

Dr Verma—No, because it is a therapeutic good and there is hormone legislation. So in theory we have harmonisation with New Zealand but in practice we have to go through printing a whole different print run for labels.

Mr MARTYN EVANS—We still have the Therapeutic Goods Administration. We do not even practice harmonisation with the FDA and so on. We could simply permit every product that the FDA permits, but we do not; we make people go through reregistration with the Therapeutic Goods Administration here. We have some level of harmonisation but we still have a whole—

Dr Verma—The FDA is a good example, because with the FDA at least you have one agency with multiple departments which you go to for veterinary, human and genetically modified organism products, but in Australia you go to the NRA for veterinary, you go to the TGA for human goods and you go to the OGTR for recombinant organisms. The government could do quite a lot.

Mr MARTYN EVANS—We have a whole new bureaucracy here.

Dr Goddard—In terms of R&D and the development of biopharmaceuticals, it is almost irrelevant what we do here, because the FDA is all-powerful. If you want to license out any drug, technology or new product and get money back for it, you have to comply with what the FDA says, because that is the biggest market in the world, full stop.

Mr MARTYN EVANS—We might as well just accept what they say.

Dr Goddard—We should just simply accept what they say and get on with it. I have one more thing to say. They do this for safety reasons. The worst thing you could have would be a drug which went onto the market and caused all sorts of problems. Quality is all-important. Dr Crook said that it costs a lot of money, but our quality assurance group, which includes quality assurance and quality control, is bigger than the R&D group. The R&D group is the second biggest in the company and the QA group is the biggest.

Mr Charlton—Just on the quality issues, we have a very small company, and I thought, rather naively, that we would get quality accredited very early on because it would be easier at that stage than later on. We found that in fact good companies generally have a good process anyway. We are in ISO 14000 and ISO 9000. We have found that it has increased the amount of administration and paperwork. It is not as important as it is in your situation, where you have drugs on the market. We look at it now more as a marketing thing: people see the five ticks and think, 'They must be pretty good.' You hope you are, of course. So getting that actually added to our overhead, as it were.

Mr TICEHURST—Once you have produced your quality manual, it sits on the shelf, there to stay.

Mr Charlton—That is right. How often do you look at it?

Dr Crook—Picking up on that, we look at it every day; we live and breathe it. If you have a quality system it has to be like that, particularly with a product that can kill you. This is part of our life. Let me give you an example of the FDA. The FDA has two standards. They have an FDA that is a body that reviews American companies and makes sure that they are audited regularly. You can actually buy from a company in America that is FDA approved and that only has a piece of paper. If you do not challenge whether they are an audited FDA company, you can be buying a product that the FDA has never looked at. That is two standards.

The other thing is that, if we are selling to a country that does not want the FDA, the TGA or the CE mark, why should we not be allowed to sell to them? We should not be telling other countries what they can have. We have just had introduced through the TGA—I sat on the harmonisation group—a provision where, if a country does not want the TGA or another standard and is prepared to accept a particular standard, such as their own, we should be allowed to supply it. Take the United Nations, for example. I was knocked out of a million-dollar market with the United Nations because they did not want our standards. They just wanted a minimal standard at a minimal price, but I could not supply them.

China has just joined the World Trade Organization. They said, 'Please supply your CE mark.' We did, and that should have been enough. It is a piece of paper signed off by SGS Yardsley or TUV in Germany. It is signed off by all sorts of organisations, but China will not accept it. They want all the commercial-in-confidence documentation. Why? Because they want to copy it. So you step back and say, 'I'm not going to give you this, guys.' The idea is to go through DFAT and get DFAT to go to bat for you because you are not going to supply the information. In every country you go into—with the exception of the European Union now—when you say you have your CE mark, and you have it, you do not have to pay again.

I pay the TGA to audit me and two weeks later I get SGS Yardsley to come in. I am talking $4,000 a day for one and $8,000 a day for the other. I go to the TGA and say, 'Look, I've got this CE mark. You know I've got it.' They say, 'Yes, but we've still got to come and look at you because we've still got to make a profit.' The TGA is totally business funded. It gets nothing from government. Yet we do not have position on the board there—nothing. As you can see, it is rather a testy subject with me. This is a huge compliance cost.

Mr LINDSAY—Can I respond to that and say that universities in Australia are totally federal government funded, and we do not have a position on any board.

Dr Crook—Yes, but you can control the strings.

CHAIR—Tony, did you want to add something?

Mr Harrison—No, I think that has covered exactly where I was going.

Dr WASHER—I think we can streamline that a bit. It is ridiculous. The reason initially given, of course, was population variation, but we are now all multicultural societies, and I think we can do good trials that cover most parts of the world. Mr Rohrsheim, why does the services industry state that it does not get any grants and that it cannot access these Start type grants? What is the logic behind that?

Mr Rohrsheim—It is the wording. You have to be creating a product or something that is going to split the atom.

Dr WASHER—But it is our biggest export industry now.

Mr Rohrsheim—I know, but the documentation is all focused on a product—for instance, that there is going to be a widget that will be exported overseas.

Mr TICEHURST—It does not mention a service at all.

Mr Rohrsheim—No, it does not.

Dr WASHER—That is a pretty serious fault in the system. It is a great oversight.

CHAIR—This has been raised a couple of times. Previously it has taken us into the area of definition. It is deemed to be a difference between research and development and innovation. In my view they are the same thing. I used to go through the same aspects in my business, before I became a member of parliament. We provided an innovative service, and that was really R&D as far as our business was concerned, but we never applied for any grants or concessions, because it did not fit. The committee needs to say something about that definition in the report.

Dr WASHER—We need a close look at that, yes.

Mr Wilson—Could I reinforce that point and say that you run up against the same sort of problem in the application for an R&D Start grant if you are not talking about an innovative widget. If you are talking about an improvement to a widget, that is seen as being a lesser beast and, therefore, subject to much more scrutiny. So it is in the area of definition. It goes to the point that I made before: having the new idea is a relatively small part of the process; getting it through to a robust product that is going to operate reliably in a harsh environment is the major part of the effort.

Dr WASHER—There were a couple of other things that Dr Crook mentioned. Firstly, why Korea?

Dr Crook—The research in Korea at the moment for us is very innovative. We always have to keep up with changes in technology in surgery. They have developed a very nice niche.

Dr WASHER—The second point that you mentioned, Dr Crook, was that the CRCs and public research institutions were not of great help to small and medium enterprises. Can you flesh that out a fraction?

Dr Crook—I think I said that the focus of those bodies is on the long term, and small businesses do not have a long term. It is a time factor. The two important terms are thresholds and time factors. We really need to be able to make decisions very quickly. The other thing is that when SMEs get into CRCs there are often bigger companies in there. It makes it very difficult. The little companies get nothing out of it really. They are riding on the coat-tails, which makes it very difficult.

CHAIR—Dr Crook, are you aware that, in the most recent round of CRCs, the conditions, for want of a better word, have changed quite a lot? That has certainly helped to facilitate the involvement of a lot more small and medium businesses. In the early days they had to sign up for seven years. How many small companies can say that they can guarantee funds next year, let alone in seven years? But that aspect certainly changed. If you look at some of the CRCs that were announced only a couple of months ago, there is a lot more involvement. I am familiar with one in particular, which was through an industry association. A series of small businesses can all participate in that CRC via their industry association. One might have a particular expertise, so they can have six months involvement in it, then pull out and somebody else can come in. That sort of facilitation has been done in the most recent round, for that very reason that you raise.

Dr WASHER—Mr Chair, thanks for doing that. I ask Dr Crook and others to get back to us on that, because the bulk of federal money goes through CRCs. If they are deficient in this way, we need to improve them. As the chair said, we have tried to do that. If that is not adequate, we would like a bit of feedback, because that is where a lot of taxpayers' dollars go.

Lastly, there is the issue of superannuation investment. I understand what Martyn said earlier—there is a high risk factor—but as a government we have stated that for every dollar invested there is a high return by doing R&D. That is why we are encouraging it. At the venture capital end—as Neil said when he had his widget there to go right into the soil, and really needed the money just to get it in there—I could not see why any fund would not want to invest there. I would rather invest there than on the stock market or in real estate at the moment.

We really do need to grab the superannuation money; there is a hell of a lot of money in storage there. We have tried to get it from the Americas, too. You know about our tax changes, Mr Chair. To my knowledge, we have not had one dollar, so our efforts have not been very successful. I know it was asked before, but do you have any brilliant ideas to give us, the government? We want their money, particularly American money, invested in this country. There are billions of dollars in their retirement investment funds. We have made it attractive in tax terms for them to do it, but to my knowledge it has not brought them in.

CHAIR—It is a fairly recent change, though.

Dr WASHER—I know. We are hoping to see it, but I am looking for any other ideas.

Dr Crook—Do we have a department that is actually running with this?

Dr WASHER—I do not think we do. It is more just a tax incentive that we have produced.

Dr Crook—Well, there you go.

CHAIR—That incentive was a change to the taxation laws. I think you will find that Invest Australia is the appropriate body, which would be using that to attract investment; that would be another tool that they would use to show why it is a good idea to invest in Australia. Certainly, the role of Invest Australia, which is part of the industry portfolio, is to get investment into Australia.

Dr Crook—Being an ex board member of Austrade, I will make a point of talking to them and finding out how they are doing it.

CHAIR—Are there any other comments on that?

Dr Brasted—It is probably important to distinguish whether capital is being applied to pre-seed, seed, early stage, or commercialisation activities. The quantums required for each of these stages probably vary; it seems to me that it is at the pre-seed level that the greatest impact can be had on capital that individuals are putting in at the very embryonic stage of their ideas. Further down the track, superannuation funds could come in at a relatively safe level, and then there is probably the middle of the spectrum, where it could be a mix.

Mr Harrison—One of the issues, as far as superannuation funding availability is concerned, is in the commercialisation area. That is where it really does start to get to the smaller end of the scale. They have usually eaten up their funds, their grants and all the rest of it in getting the product ready for market. Yes, we have the MDG scheme and all the rest of it happening, but they have really just about run their race unless they can get investor capital to get them out into the marketplace and commercialising, particularly in the global marketplace. If there is a major external exhibition—say, in the United States—at which you want to have some presence, you are not going to get a lot of change out of $50,000. For the smaller operators that is pretty critical.

CHAIR—We are really going to have to wind up now, but just before we do, could I ask everybody this. Not everybody need comment, but anyone who wants to may. If there is one thing, or two, that you would implore the committee to concentrate on, or have something to say on, or recommend as part of this particular inquiry, what would it be?

Dr Verma—I think we have already made the points about the one or two things that we would like you to concentrate on. One thing I would appreciate is if you could keep in mind the definition of R&D. That is something we have touched on but have not really explored. When the Senate committee came last year or the year before, a change in the definition of R&D came in, which really affected tax concessions. It changed to a requirement that you have to be able to tick the box for every activity before it becomes eligible to go into your tax concession. As I recall, and I have not looked at this for a while, it used to be that it had to be judged either high risk or innovative/novel. Then they changed it to high risk and novel.

It goes to what Neil was saying earlier: if you get into product development, which is D—little r, big D—what you are doing is high risk but it is not novel any more because you are now making sure it is a robust technology that can be marketed. Time and time again we get caught in this trap when a clinical trial gets the response: 'I'm sorry, that doesn't fit under R&D.' But it does, because if it falls over in clinical trials you do not have a product. So I implore you to think through both the R and the D, not just the R side of it.

Dr Crook—R, D and C—we need commercialisation.

Mrs Nelson—I certainly concur with that. At the end of the day, the commercialisation is what is going to benefit the whole economy and the community at large. To pick up a point that Dr Washer mentioned, we received no venture capital funding in this state last year in the biosciences or life sciences area at all. We can certainly fund R&D but, if we do not look at how

we can take that forward and grow substantial companies in our own right from our own body of research, then I think we have substantially failed to make great gains.

Mr Harrison—The issue that I see is education for the bottom end of SMEs through third parties, and I would suggest using the accounting fraternity. Almost everybody out there who has an ABN has an accountant, so that is a way in which we can get the message out on pretty much every program that is available—making accountants aware, and making sure accountants are making their clients aware, of what is available for them. I cannot think of a better way of delivery.

Dr Lim—In a very parochial sense, working where we do, it appears that a number of products that are used by the community have an adverse environmental impact. It also appears to us that there is no imposition on the production of those products to enforce the recovery of those products in a sensible way. Perhaps the committee could consider some sort of levy being put on environmentally unfriendly products which would fund research and development in that area.

CHAIR—I thank you all very much for your time this morning. It has been extremely valuable for the committee in pulling things together as we get to the end of our inquiry. We really appreciate the time you have given us and we thank you for your input. Because of the way parliament sits over the next couple of months, the committee will probably not be able to get a report in to the parliament until the May-June session, but all participants will certainly get a copy of that report when it is completed.

Committee adjourned at 9.49 a.m.