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INQUIRY INTO BUSINESS COMMITMENT TO R & D IN AUSTRALIA - FEDERAL STANDING COMMITTEE ON SCIENCE AND INNOVATION

In response to the request for advice related to preparing a whole of government submission to the above inquiry, please find the following input from the Department of Industry & Technology.

BACKGROUND

Business Expenditure on R & D (BERD) is around 0.7 % of GDP in Australia. This figure dipped in recent years due to the withdrawal of the 150% R&D Tax Concession and the fact that a lot of the expenditure came from a small number of large companies. For example leaving out CSIRO, which invests about $600 million per annum in R&D, BHP-Billiton, Rio Tinto and Telstra tend to be the main players at around the $80 million area.

There has been an absolute decline in BERD since the mid 1990s and a relative decline as a share of GDP. Australian BERD as a share of GDP is very low on the OECD average.

INDUSTRY BASED INNOVATION AND R&D IN WESTERN AUSTRALIA

One of the Western Australian State Government's strategies in regard to innovation, is to strengthen the long term economic competitiveness by establishing WA as a global leader in innovation related activities. The aim is to encourage innovation across industries and stimulate business and educational institutions to work together to generate ideas and commercialise them.

Over the past nine years, the WA Government has administered two main innovation programs, the Western Australian Innovation Support Scheme (WAISS) and the Neville Stanley Awards (NSA).

WAISS was established in 1993 to support the development in Western Australia of innovative products and processes that have commercial merit. Funds were provided on a matching basis with grants ranging from $20,000 to $50,000 for companies to conduct specified research and development projects.

Over the 14 rounds of WAISS, 126 grants have been provided to 119 small Western Australian companies. The total value of grants provided amounts to $5.9 million to partly fund R&D activities estimated at $15.4 million. The program has been responsible for encouraging industry to invest, on average almost $2 into R&D activities for every $1 of WAISS funding provided.

WAISS grant applicants and recipients have been successful in accessing Commonwealth research and development funding through AusIndustry's Start and COMET programs. Between 1998 and 2001, 22 WAISS grant recipients received $15 million in Commonwealth funding (32% of funding awarded to WA companies). Their success has significantly increased the leverage of Commonwealth funds to WA. The WAISS grant process is seen by the Federal Department of Industry, Science and Resources as a training ground, with WAISS applicants being better placed to "graduate" to Commonwealth research and development programs.

One of the key aims of the Neville Stanley Awards (NSA) is to facilitate collaboration between industry and academia. The Awards provide tertiary students with industry experience, providing opportunities for the practical development of skills and experience, resulting in enhanced opportunities for employment. By participating in the NSA, industry gains opportunity to access research and development expertise in universities through participating students.

More recently, in recognition of the important role that innovation plays in industry and economic development, the Department of Industry and Technology established the WA Innovation Centre, which includes an Innovation Advisory Service and the Innovation web site. The WAIC recognises the value of innovation and the need for guidance for those creating innovation, and those supporting innovators. On this basis, the Centre aims to provide information on:

- current news on innovations;
- upcoming events that may be appropriate to innovators or investors;
- steps to take (and why) when progressing an idea through to commercialisation; and
- a directory of information including contacts that can help with innovations as well as government programs and assistance available.

The Centre also organised a series of three Innovation Success Seminars at Technology Park, featuring Western Australian innovators as guest speakers. The seminars focused on the various stages of the innovation process, from exploring

ideas and opportunities, to developing products and prototypes, to accessing capital and management expertise.

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

The Department of Industry & Technology recognises that higher levels of innovation and R&D result in internationally competitive companies and industries in Western Australia, where organisations are prepared to collaborate in undertaking R&D which result's in the diffusion of innovation and new knowledge within the economy.

The economic benefits of greater private sector investment in R&D include:

- improved company performance by increased commercialisation rates for R&D undertaken. This leads to increased employment levels within companies, increased sales (domestic and export), increased market share, increased turnover and profitability;
- increased R&D collaboration which results in knowledge, technology and skills transfer between the collaborators;
- increased rate of R&D investment by companies which acts to share the risks of undertaking R&D;
- increased investment by companies in commercialising innovation and R&D and the attraction of a higher level of external funding either through private investment or venture capital;
- increased international competitiveness;
- higher level of introduction of new products and services and a higher level of import replacement;
- improvements in the level of staff skills and capabilities;
- flow on effects to other sectors of the economy through sub-contracting R&D work and manufacture of developed products;
- boosting company morale and credibility through the successful development and commercialisation of new products or services;
- the external recognition of the company through industry and R&D awards; and

- a higher level of collaboration between the academic sector and industry in undertaking R&D and commercialisation of intellectual property.

2. What are the impediments to business investment in R&D?

Despite the acceptance of the importance of innovation to competitiveness, companies are finding it more and more difficult to allocate resources needed to undertake a structured innovation program. In addition, investors and financiers are reluctant to invest in development of new technologies due to the risk involved and the long time frame before any investment is recovered. As a result, there has been a trend toward investment in ongoing business to maintain market position and turnover.

Small domestic markets exacerbate the situation in Australia, and particularly in WA. This means that industry begins to focus on exporting from a very early stage to remain commercially viable in the longer term. As a result, local companies tend to spend less on innovation than their overseas counterparts, which in the longer term could lead to the erosion of the WA and Australian industry of international competitiveness.

In WA, industry based R&D and innovation is typically undertaken by small WA operations that have been in existence for a short period of time. These companies do not have an established track record, generally employ fewer than ten people and turn over less than $1 million per year. They do not have access to the resources and cash flow needed to simultaneously focus on commercial operations and a structured innovation program. Innovation and R&D therefore occurs in an *ad hoc* manner, usually being undertaken as needed and when resources permit.

In this environment, some of the difficulties faced by these companies include:

- availability of resources to enable the focus on a structured, ongoing R&D and innovation program. Local companies are frequently required to divert resources away from R&D programs to shore up commercial operations;

- availability of relevant skills and capabilities locally to support R&D and innovation. For example, many IT related projects tend to face difficulty in finding appropriately skilled IT contractors and several companies have faced difficulty in having prototypes manufactured to required standards at an affordable cost and in required timeframes;

- availability of funding to support the development of innovative products and services. Investors generally are not willing to invest in longer term R&D projects preferring to get involved at the commercialisation stage which results in a shorter time frame to recover the investment;

- management skills and capabilities in relation to management and commercialisation of R&D and innovation;

- advisory services to companies to help in developing and managing innovation and R&D programs and commercialisation strategies. Local companies have expressed a need for mentoring support or a network that they can approach for advice. Some continue to work in isolation without developing an awareness of other developments occurring simultaneously;

- availability of infrastructure to support R&D and innovation. For example, testing facilities, access to equipment or IT resources and accommodation to house small R&D projects; and

- working with potential clients and consumers to establish a clear market need for the proposed new product or service prior to undertaking the development work. The establishment of the market need is a critical aspect of successful commercialisation and this is an area where companies have faced difficulty.

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

Some suggestions to encourage business to increase private sector investment in R&D include:

- increase the R&D Tax concession to 200% as most businesses acknowledge that this is broad-based, market driven and promotes BERD. Access to it does not depend on a competitive process and it therefore provides certainty in forward planning. Include a cash-out option to provide smaller companies with access to cash flow, which can be used to accelerate growth and increase the level of BERD. Currently companies that don't pay tax aren't able to benefit immediately under the R&D Tax Scheme;

- provide Australian business with timely access to innovation support programs by establishing access points and use of diagnostic tools to identify gaps, overlaps and access barriers in existing programs across Federal and State programs;

- encourage philanthropic support for Australian R&D in a similar manner employed in the Arts area. This is a big growth area in the US, Canada and some Asian countries;

- hold workshops and case studies to showcase the commercial benefits of successful innovation/R&D programs;

- create incentives to encourage companies to implement innovation/R&D programs;

- offer infrastructure and advisory support to help the innovation process by encouraging companies to develop innovation/R&D strategies;
- encourage greater private industry involvement in Cooperative Research Centres;
- build an innovation culture in local industry;
- encourage the venture capital/financial sector of the benefits of investing in companies undertaking early stage innovation projects;
- encourage collaboration in the development and commercialisation of new products and services; and
- develop management skills and capabilities in relation to managing the development and commercialisation of new products and services.

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TOURISM; SMALL BUSINESS

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Office Secretary, 2 Sept 2002