Background

Innovation—developing new skills, generating new ideas through research, and the commercialisation of ideas—is imperative to secure Australia's future prosperity.

The Commonwealth Government's Backing *Australia's Ability – Building our Future through Science and Innovation* is a new package totalling $5.3 billion over seven years from 2004-05. The package builds on the initial 2001 investment of $3 billion. Together these packages constitute a ten year, $8.3 billion funding commitment stretching from 2001-02 to 2010-11.

Backing Australia's Ability outlines the Government's strategy to encourage and support innovation and enhance Australia's international competitiveness, economic prosperity and social wellbeing.[1]

Invest Australia is keen to promote further innovation through future investment.

Australia's Innovation Environment

Australia's business environment is highly conducive to the spread of ideas, adoption of new technologies and formation of diverse strategic alliances.

One of Australia's greatest assets is the capacity of our people to innovate and adapt. With only 0.3 per cent of the world's population, Australia produces 2.9 per cent of the world's research papers.[2]

Furthermore, Australia has an outstanding list of 'world firsts' in science and innovation, including:

- solar hot water;
- the bionic ear; and
- the heart pacemaker.

Experimental development currently represents the largest portion of Australia's R&D activity and it has also shown the greatest overall growth over the last 20 years. The next largest activity share is applied research, followed by strategic basic research and pure basic research.[3]

The National Survey of Research Commercialisation Years 2001 and 2002 found that ideas generated through public sector research are being turned into new products and services for the market, creating and sustaining new industries. Importantly, the report estimated that in 2001 and 2002 Australia generated over 150 start-up companies from its publicly funded research organisations over five years to 2004.[4]

Increases in applications for design, trademark and patent applications over the last few years lends support to this trend. Between 1999-00 and 2002-03, there was a 200 per cent increase in the number of trademark registrations, and between 1999-00 and 2003-04 an eight per cent increase in design registrations.[5]

Interestingly, 50 per cent of the most innovative companies in Australia are foreign-based, according to a survey by the Intellectual Property Research Institute of Applied Economic & Social Research. This highlights the benefits and cost effectiveness of conducting R&D work in Australia.

R&D Infrastructure

A nation's potential for innovation is strongly linked to its R&D infrastructure. Australia possesses world-class and sophisticated R&D infrastructure. *The Global Competitiveness Report 2004-05* supports this finding, ranking Australia ninth in the world in terms of the overall quality of its scientific research institutions.

Investment and Expenditure

Australia's expenditure in R&D totalled more than $12,250 million or 1.62 per cent of GDP in 2002-03.[6]

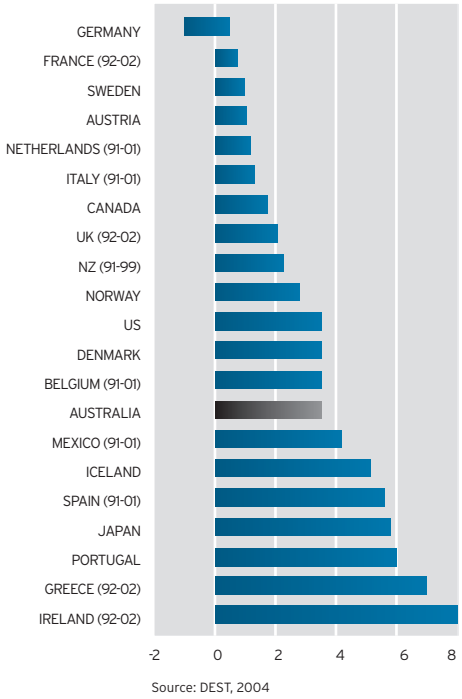
The Australian Government recognises the need to invest in systems that support the creation and development of new ideas, to generate sustainable economic growth.

R&D expenditure by government agencies in Australia, as a percentage of GDP, is among the highest in the OECD, higher than in the US, UK, Japan, Norway, Italy and Korea.[7]

Figure 1 ranks OECD countries by their average annual real growth rate of Government budget appropriations or outlays for R&D (GBAORD) between 1993 and 2003.

Australia recorded a growth rate of 3.5 per cent, equivalent to Belgium, Denmark and the United States, but well ahead of the United Kingdom (2.1 per cent), Canada (1.9 per cent), Sweden (0.4 per cent), France (-0.1 per cent) and Germany (-0.6 per cent).[8]

FIGURE 2: Proposed investments by country 2003-04 (A$billion)



Source: DEST, 2004

Almost half of Australia's R&D is undertaken in the business sector. Australian business spent an estimated $6 billion at current prices in 2002-03, 29 per cent higher than that recorded in 1999-00.[9] Over the last 20 years the increase in Australian business expenditure on R&D relative to GDP has been among the highest in the OECD.[10]

Absolute spending on R&D was led by Holden and Ford, followed by blood plasma group CSL. On a weighted basis, when companies' size and other innovation factors, such as patent applications, were factored in, three biotechnology companies led the pack—Cochlear, Varian, and ResMed Holdings.

The latest R&D and Intellectual Property Scoreboard, which measures spending on innovation by Australian companies and Government-backed authorities, has found that the top 15 Government firms spent $1.7 billion on R&D in 2002-03. The top 50 corporate spenders - which account for about 25 per cent of all Australian R&D expenditure by business enterprises —with combined spending of $1.4 billion.

Foreign-owned businesses operating in Australia make a significant contribution to Australia's R&D activity. Companies like GlaxoSmithKline and Unilever from the UK; Fujitsu, NEC and Toshiba from Japan; Hoechst and Siemens from Europe and Motorola from USA, have chosen Australia for our high value, low cost technology and innovative culture.

Government Assistance

The Commonwealth Government provides significant incentives to stimulate increased business investment in R&D and assist new companies to grow and create sustainable jobs. This includes helping to commercialise their ideas and bring new products, technology and services to the market.

Government initiatives to assist the private sector include:

- substantial R&D tax concessions to encourage an increase in the amount of R&D performed by business in Australia
- development of a world-class ICT Centre of Excellence
- establishment of a Biotechnology Centre of Excellence
- Cooperative Research Centres to bring together researchers, private industry and the wider community to work on long-term collaborative R&D efforts
- a Major National Research Facilities program that will see investment in research infrastructure of national and international significance
- tailored R&D tax rebates for small companies
- new advantageous rules for expenditure on plant and assets used for R&D
- competitive grants under the Innovation Access Program for projects that promote technology access and diffusion; and
- support for showcasing technologies at international events

The R&D Start program provides grants and loans on a competitive basis to companies incorporated in Australia to undertake R&D and related collaborative and commercialisation activities. Grants awarded to companies can be up to the value of $15 million.

The *Innovation Investment Fund* (IIF) program is designed to promote the commercialisation of Australian R&D, through the provision of venture capital to small, high tech companies at the seed, start-up or early expansion stages of their development.

The *Pre-seed Fund* program has over $100 million to invest in projects or companies spun out from universities or Commonwealth public sector research organisations.

The *Commercialising Emerging Technologies* (COMET) program has funding of over $100 million to assist new technology-based companies to develop business and marketing plans and put a sound management team in place.

Recent changes to Australia's tax treatment of investments by non-resident investors in Australian venture capital—considered world's best practice—are administered through the V*enture Capital Limited Partnerships* (VCLP) process. The VCLP arrangement will become one of the most transparent and tax competitive investment structures in the region.

Future Prospects for Innovation in Australia

Australia's innovation performance in the past has helped generate the nation's impressive economic growth in recent years. For example, Australia's average annual real GDP growth of 3.7 per cent since 1998 has easily exceeded the OECD average over the same period.

Productivity improvements from innovation and investment in areas such as ICT and human capital are expected to be increasingly important drivers of economic growth over the next decade.[11]

Australia's efforts in innovation have been substantial and form a sound foundation on which to build. With renewed attention from industry, government and the research sector Australia's innovative culture offers excellent opportunities for foreign investment.

More Information

For more information on innovation in Australia, please visit:

Department of Industry, Tourism and Resources
www.industry.gov.au

Department of Communication, Information Technology and the Arts
www.dcita.gov.au

Department of Education, Science and Training
www.dest.gov.au

The National Innovation Website
www.innovation.gov.au

IP Australia
www.ipaustralia.gov.au

AusIndustry
www.ausindustry.gov.au

1. Backing Australia's Ability – Building Our Future through Science and Innovation **2.** Department of Education, Science & Training, 'Australian Science and Technology at a Glance 2004' **3.** DEST, 2004' **4.** DEST, National Survey of Research Commercialisation Years 2001 and 2002 **5.** IP Australia, 2005 **6.** DEST, 2004' **7.** DEST, 2004' **8.** DEST, 2004' **9.** DEST, 2004' **10.** ABS, Science and Innovation, 2002 **11.** Backing Australia's Ability: Building our Future through Science and Innovation.

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