

## 1. Preliminary Innovation Indicators

### A OVERALL ECONOMIC IMPACTS

- A1 GDP per capita
- A2 Productivity growth
- A3 Trade intensity
- A4 Increased welfare
- A5 Environment
- A6 R&D by priority SEOs

### B INNOVATION OUTCOMES AND OUTPUTS

- B1 New or improved products, processes, services

*New to firm*

*New to market*

*New to world*

*No of firms innovating*

- B2 New businesses employing staff

- B3 Exporting firms

- B4 Global firms

*No firms in global top 100*

*No of firms in top 500 innovators*

*Firms with > 50% trade intensity*

*Industries with > 10% global market share*

- B5 Generation of Intellectual property

Patents

Trademarks

Registered designs

Royalty streams

Terms of IP trade

### C KNOWLEDGE GENERATION

- C1 Share of world publications
- C2 Share of world citations
- C3 Number of scholarly journals
- C4 Innovation diffusion (gap in metrics)
- C5 Firm absorptive capacity (gap in metrics)

### D HUMAN CAPITAL

- D1 Education as % of GDP
- D2 As per cent of OECD average
- D3 Firm expenditure on training
- D4 Higher degree enrolments
- D5 STEM as % of HEI enrolments
- D6 PhDs in workforce

### E INVESTMENT IN THE RESEARCH BASE AND INOVATION

- E1 R&D expenditure as % of R&D

*GERD*

*BERD*

*Philanthropic investment*

*Extramural as % of total*

- E2 Investment by SEOs

- E3 R&D intensity by Industry cf Rest of World

- E4 Investment in research infrastructure

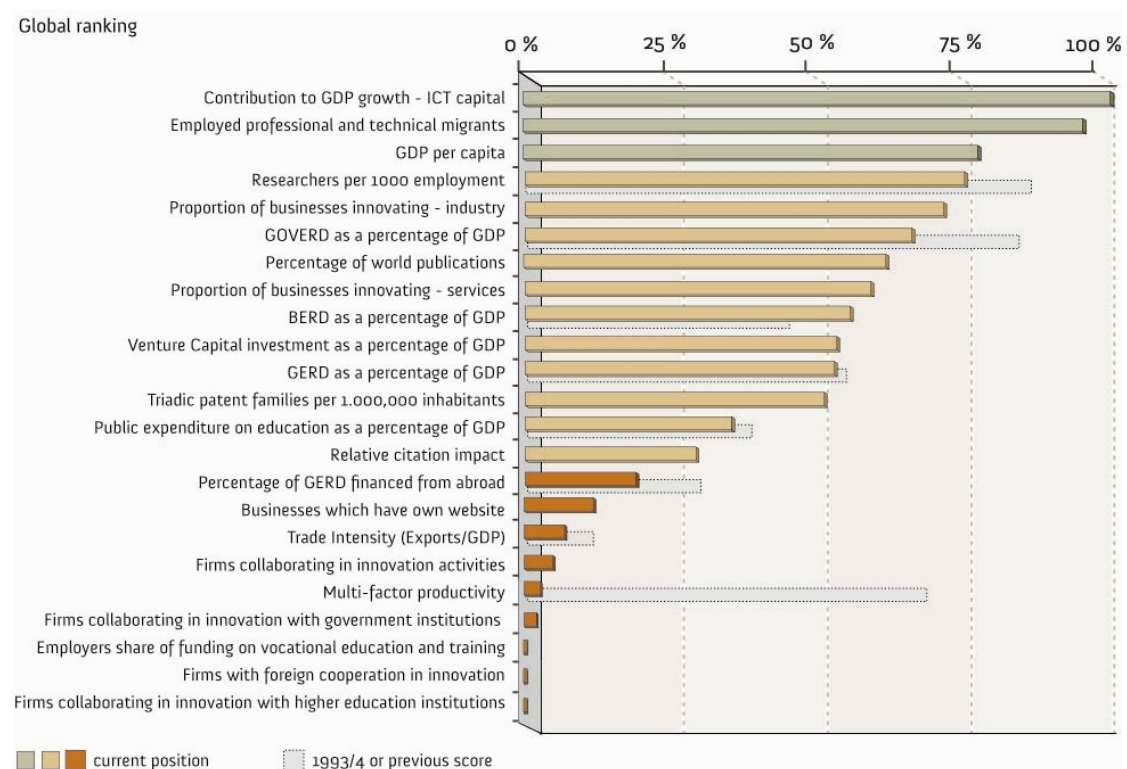
- E5 Investment in major national facilities
- F GLOBAL INTEGRATION**
  - F1 People Flows
  - F2 Firm integration
  - F3 Institutional integration
- G FRAMEWORK CONDITIONS**
  - G1 FDI attractiveness
  - G2 Venture Capital availability
  - G3 Public engagement with innovation
  - G4 Standards
- H KNOWLEDGE EXCHANGE EFFICIENCY**
  - H1 Ease of Collaboration

## 2. Global Ranking Dashboard

The global ranking dashboard provides a snapshot view of Australia's rank compared to OECD countries in a number of statistical measures.

The graph ranks Australia's position and indicates the quartile of its ranking.

In some cases ranks are also provided for previous years, indicating the change in Australia's performance overtime on these measures compared to other countries. See explanatory notes and caveats below.



### Caveats

- The global ranking dashboard is not intended to detail Australia's position at one point in time (one particular year).
- Data and ranks in the global ranking dashboard has been gathered from different years and compared to different sets of countries, i.e. individual indicators may use data from different sets of countries.
- Data from countries against which Australia has been ranked may not be from the same year or time period.
- Definitions used in data collection from other countries may vary from the definitions used in the Australian data set (for example the definition of SMEs)

### Explanatory notes

#### **Contribution to GDP growth – ICT capital**

The proportion of growth to GDP accounted for by ICT.

#### **Employed professional and technical migrants**

A measure of the number of employed professionals and technical migrants (who were born overseas) as a percentage of total employed professionals and technicians in Australia.

#### **GDP per capita (an index of per capita income)**

A measure of the appropriation of the value of goods produced per person in Australia, equal to Gross Domestic Product (GDP) divided by population (total number of people).

#### **Researchers per 1000 employment**

The number of researchers per 1000 people in employment.

#### **Proportion of businesses innovating – industry and services**

The percentage of all businesses that introduced or implemented any type of innovation during the reference period.

#### **GOVERD as a percentage of GDP**

Expenditure by government organisations on R&D (GOVERD) as a percentage of Gross Domestic Product (GDP).

#### **Percentage of world publications**

Australia's rank in terms of our contribution to total world publications.

#### **BERD as a percentage of GDP**

Business Expenditure on R&D (BERD) as a percentage of Gross Domestic Product (GDP).

#### **Venture capital investment as a percentage of GDP**

Venture capital investment as a percentage of GDP. This measure only captures formal venture capital investments.

#### **GERD as a percentage of GDP**

Gross Expenditure on R&D (GERD) as a percentage of Gross Domestic Product (GDP).

#### **Triadic patent families per 1 000 000 inhabitants**

Triadic patent families are defined by the OECD as a set of patents taken at the European Patent Office (EPO), the Japan Patent Office (JPO) and the US Patent and Trademark Office (USPTO) that protect the same invention.

#### **Public expenditure on education as a percentage of GDP**

Direct public expenditure on educational institutions plus public subsidies to households (which include subsidies for living costs) and other private entities, as a

percentage of GDP and as a percentage of total public expenditure, by level of education and year.

### **Relative citation impact**

The impact factor indicates the number of citations of publications in relation to the number of publications. It gives an index of the impact of a country's publications.

### **Percentage of GERD financed from abroad**

The volume of funds from abroad invested in Australian R&D, reflecting the continuing globalisation of R&D.

### **Businesses which have own website**

A measure of the percentage of businesses with ten or more employees that have their own website. For Australia, businesses in agriculture, forestry and fishing, education and religious organisations are excluded.

### **Trade intensity**

A measure of exports as a percentage of GDP.

### **Firms collaborating in innovative activities**

Collaboration is an important part of the innovation activities of many firms. It involves "active participation in joint innovation projects with other organisations", but excludes pure contracting out of work.

### **Multi factor productivity**

GDP can be broken down into the weighed sum of growth rates of the main factor inputs, labour and capital, with the respective weights being the shares of labour remuneration and capital income in total income or costs. The part of GDP growth that can not be explained by the rate of growth of capital and labour, the so-called Solow residual, is assumed to be the growth in multi factor productivity.

### **Firms collaborating with government institutions - total**

This is a measure of the rank of the percentage of firms collaborating in innovation with government institutions.

### **Employers share of funding on vocational education and training**

A measure of the share of funding of continual vocational education and training provided by employers compared to other funding sources.

### **Firms with foreign cooperation in innovation**

This is a rank of the percentage of all firms with foreign cooperation on innovation.

### **Firms collaborating with higher education institutions – total**

This is a rank of the percentage of firms collaborating in innovation with higher education institutions.

## Sources:

Contribution to GDP growth – ICT capital:	OECD STI: Scoreboard 2007
Employed professional and technical migrants:	OECD STI: Scoreboard 2007
GDP per capita:	Total Economy Database, January 2008, <a href="http://www.conference-board.org/economics/">http://www.conference-board.org/economics/</a>
Researchers per 1000 employment:	OECD STI: Scoreboard 2007 OECD, MSTI, April 2008
Proportion of businesses innovating – industry:	Community Innovation Statistics, Statistics in Focus, 2004 ABS, Innovation in Australian Business, 2005
GOVERD as a percentage of GDP:	OECD, MSTI, April 2008
Percentage of world publications:	Thomson-ISI, 2006
Proportion of businesses innovating – services:	Community Innovation Statistics, Statistics in Focus, 2004 ABS, Innovation in Australian Business, 2005
BERD as a percentage of GDP:	OECD, MSTI, April 2008
Venture Capital investment as a percentage of GDP:	OECD, Venture Capital Trends and Policies, 2003
GERD as a percentage of GDP:	OECD, MSTI, April 2008
Triadic patent families per 1,000,000 inhabitants:	OECD Factbook 2008: Economic, Environmental and Social Statistics
Public expenditure on education as a percentage of GDP:	EarthTrends, The World Bank – World Development Indicators Online, 2007
Relative citation impact:	Thomson-ISI 2006
Percentage of GERD financed from abroad:	OECD, MSTI, April 2008
Businesses which have own website:	OECD STI: Scoreboard 2007
Trade Intensity (Exports/GDP):	EarthTrends, The World Bank – World Development Indicators Online, 2007
Firms collaborating in innovation activities:	OECD STI: Scoreboard 2007
Multi-factor productivity:	OECD STI: Scoreboard 2007
Firms collaborating in innovation with government institutions:	OECD STI: Scoreboard 2007
Firms with foreign cooperation in innovation:	OECD STI: Scoreboard 2007
Firms collaborating in innovation with higher education institutions:	OECD STI: Scoreboard 2007

