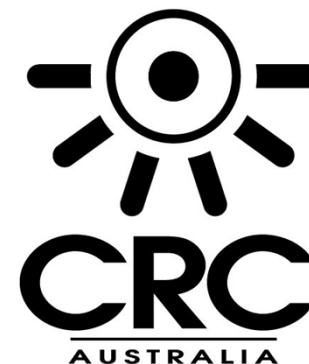




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# Innovation in Australia: Future challenges and opportunities

Neville Stevens AO

Chair, CRC Committee

Presentation to CRCA Conference: Keeping ahead of the curve, 17-19 May 2011



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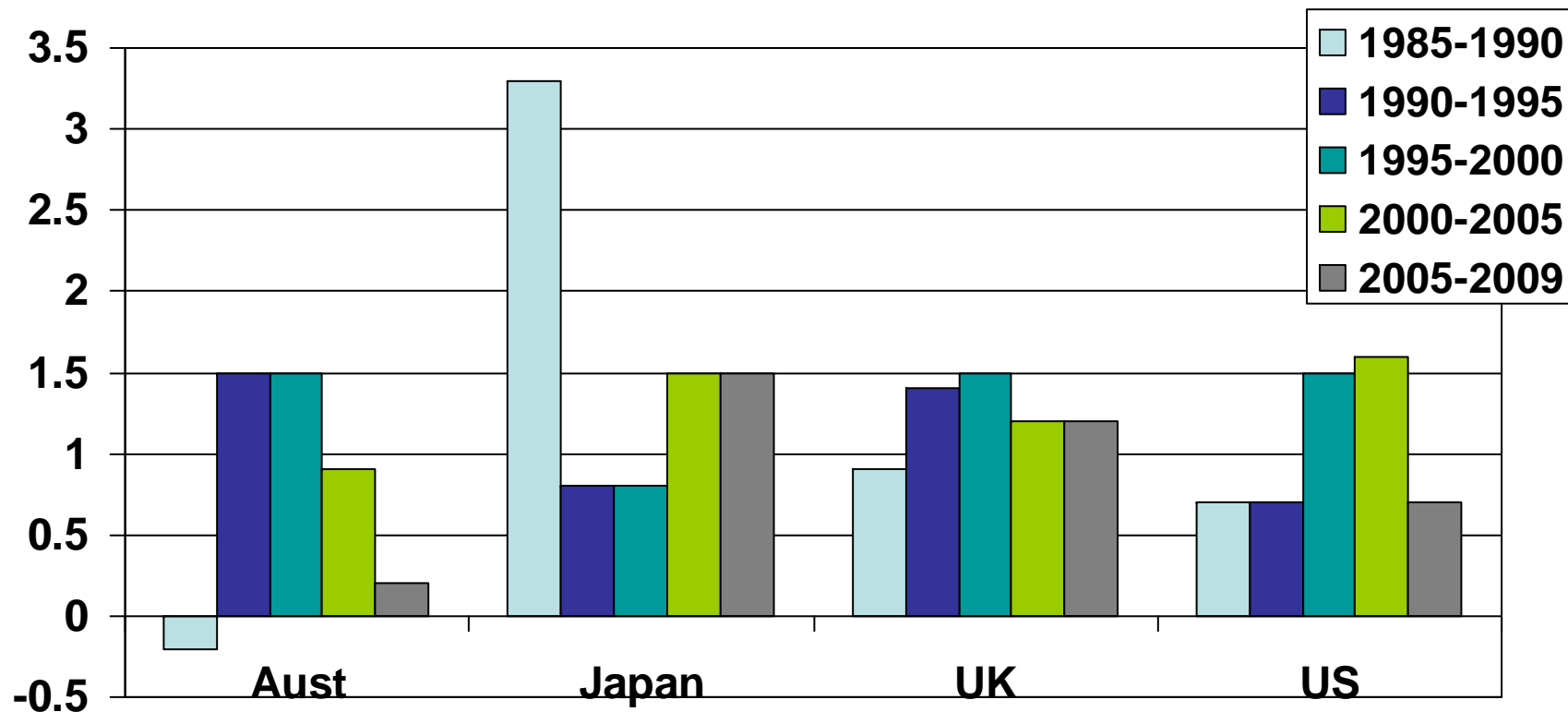
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# This session will cover...

- Australia's productivity and global competitiveness
- Investment in R&D
- Challenges and opportunities
  - Collaboration, capacity, scale
  - Contribution and role of the CRC program



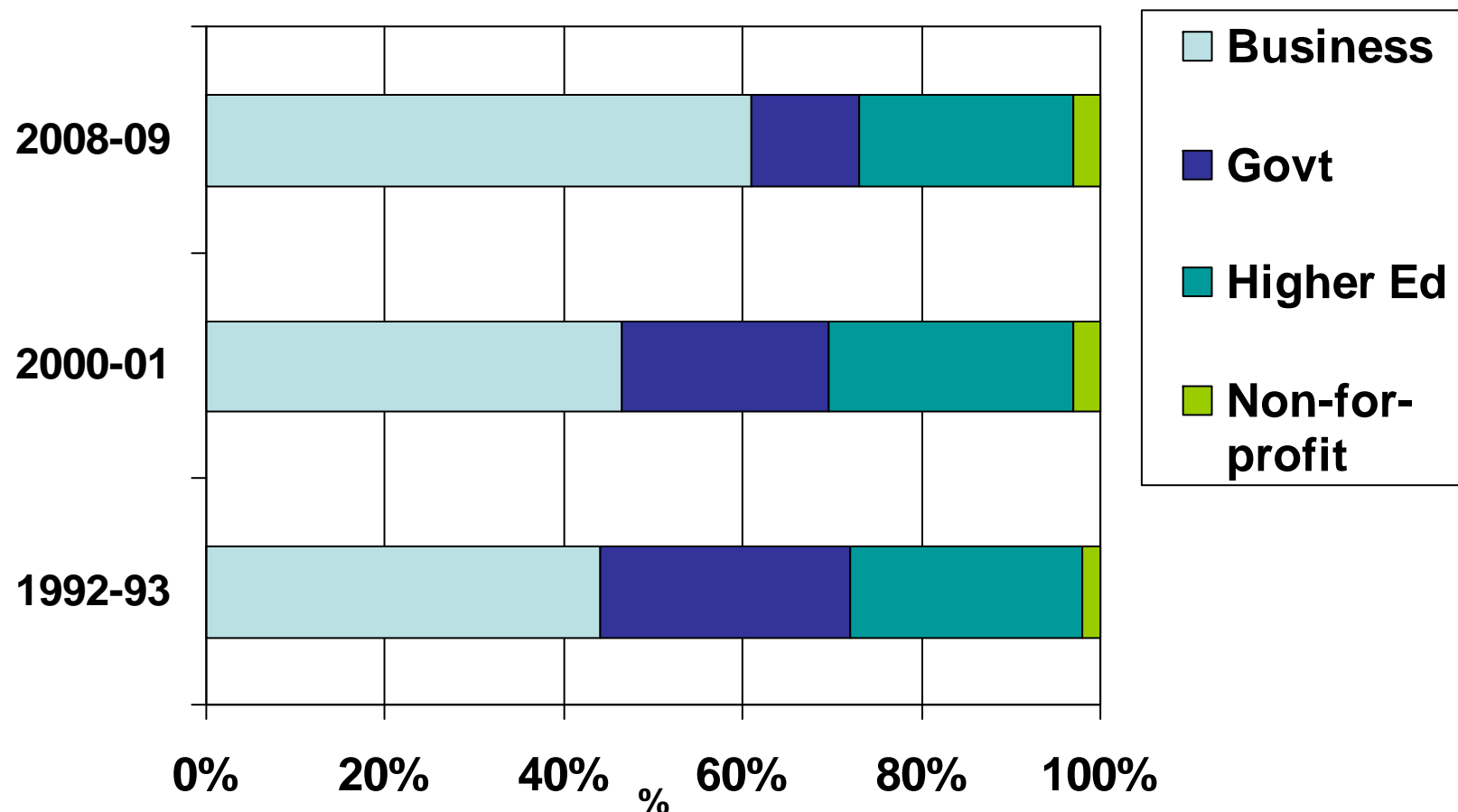
## Average growth in Multi-factor Productivity – 1985 to 2009



Source: OECD, Multi-factor Productivity, OECD.Stat



## Gross expenditure on R&D – by sector



Source: ABS Research & Experimental Development, 2008-09, cat. no. 8112.0



## Proportion (%) of R&D investment – Sector by socio-economic objective

	1992-93	2000-01	2008-09
<b>Business</b>			
Defence	5	3	2
Economic development	90	89	94
Society (health, education)	2	6	3
Environment	1	1	1
<b>Government</b>			
Defence	11	10	14
Economic development	57	58	34
Society (health, education)	11	12	22
Environment	16	17	23

Source: ABS Research & Experimental Development, 2008-09, cat. no. 8112.0



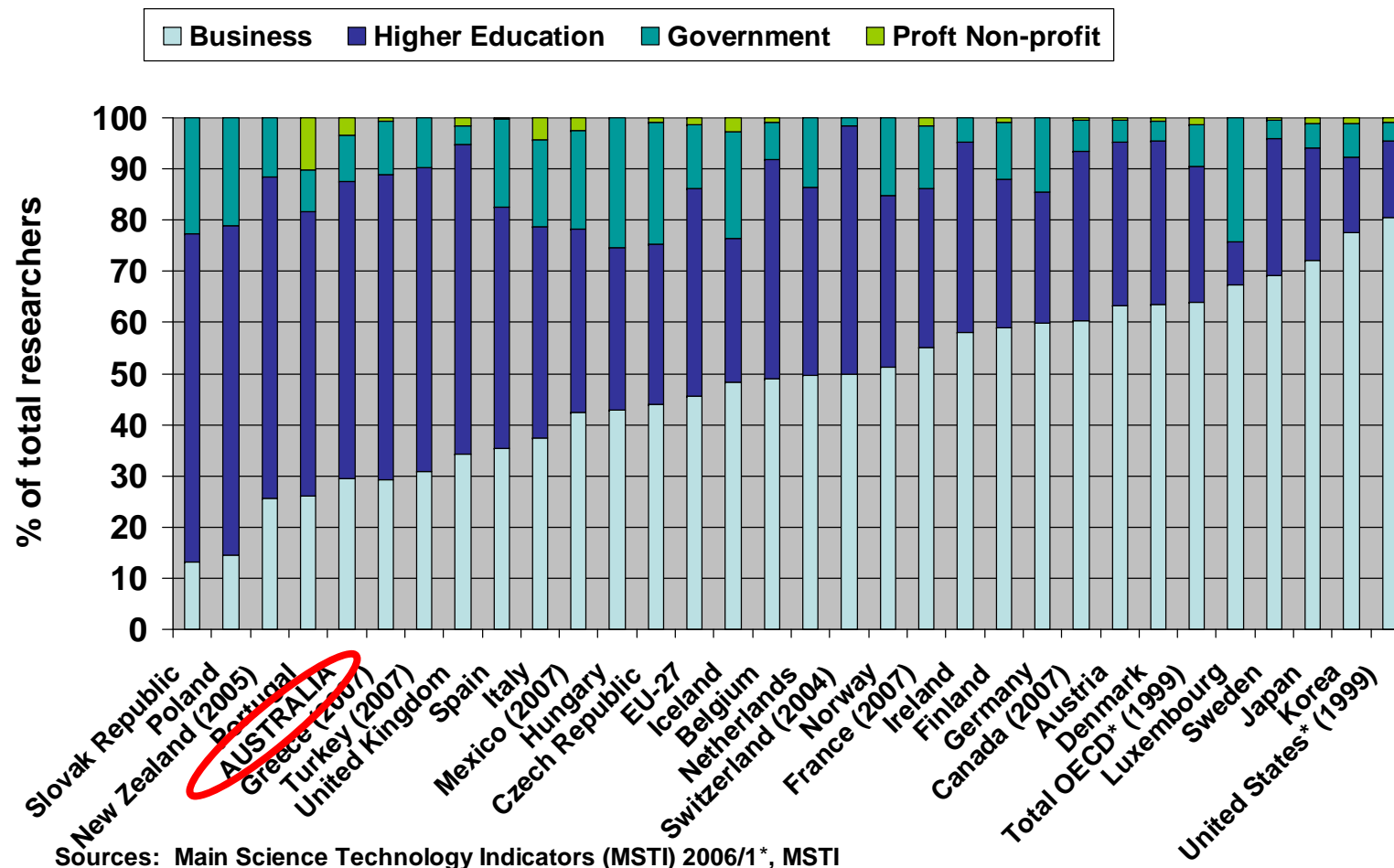
## Expenditure on R&D as proportion (%) of GDP

	Gross (GERD)			Government (Goverd)			Business (BERD)		
	1981	1992	2008	1981	1992	2008	1981	1992	2008
Australia	0.89	1.44	2.21	0.40	0.40	0.27	0.22	0.55	1.35
OECD	1.90	2.14	2.34	0.34	0.31	0.26	1.24	1.48	1.63
US	2.34	2.64	2.79	0.43	0.39	0.30	1.62	1.93	2.02
UK	2.35	1.99	1.77	0.49	0.30	0.16	1.48	1.36	1.10
NZ	0.98	0.99	1.18	0.59	0.41	0.32	0.21	0.26	0.50
Japan	2.29	2.89	3.44	0.25	0.24	0.29	1.39	2.08	2.70

Source: OECD, Main science and technology indicators, OECD.Stat



# Distribution of total researchers by sector - by OECD country, 2007





## Collaborating for Innovation – Innovative firms by type of organisation collaborated with, 2008-09

	Australia %	Overseas %	0-4 employees %	200+ employees %
Clients, customers & other buyers	41.1	2.3	<b>43.8</b>	24.4
Suppliers of equipment, materials, components, software	35.7	7.5	34.3	<b>43.9</b>
Consultants	33.7	0.8	30.4	<b>35.4</b>
Competitors	31.0	1.7	<b>39.0</b>	16.4
Government agency	9.4	-	9.2	10.0
University or other higher education institution	2.4	1.2	2.4	<b>11.5</b>

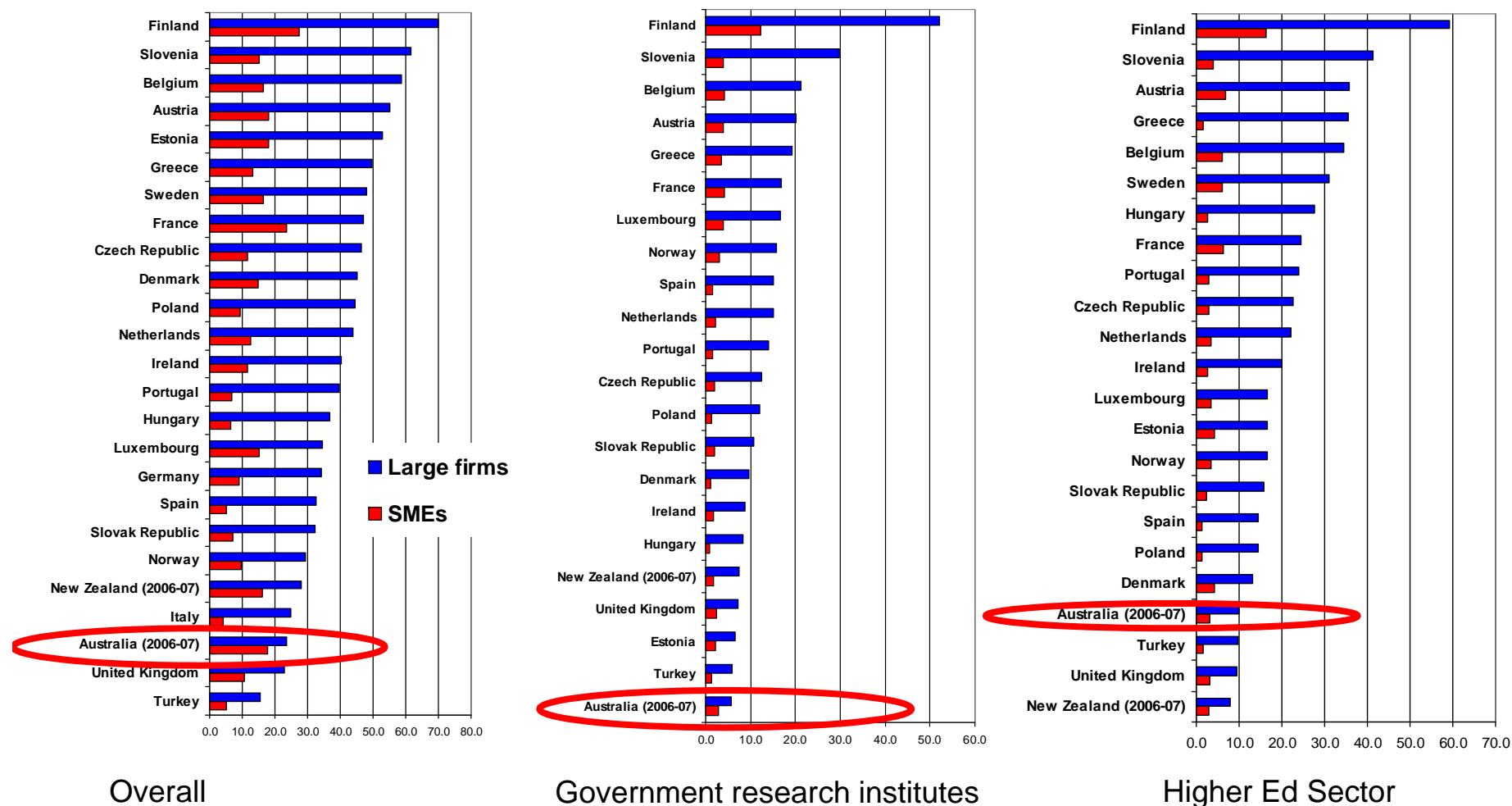
Note: Businesses could identify more than one location or type of organisation.

Source: ABS, Innovation in Australian Business, 2008-09 (cat. no. 8158.0)





## Firms collaborating on innovation by size & sector, 2006-07





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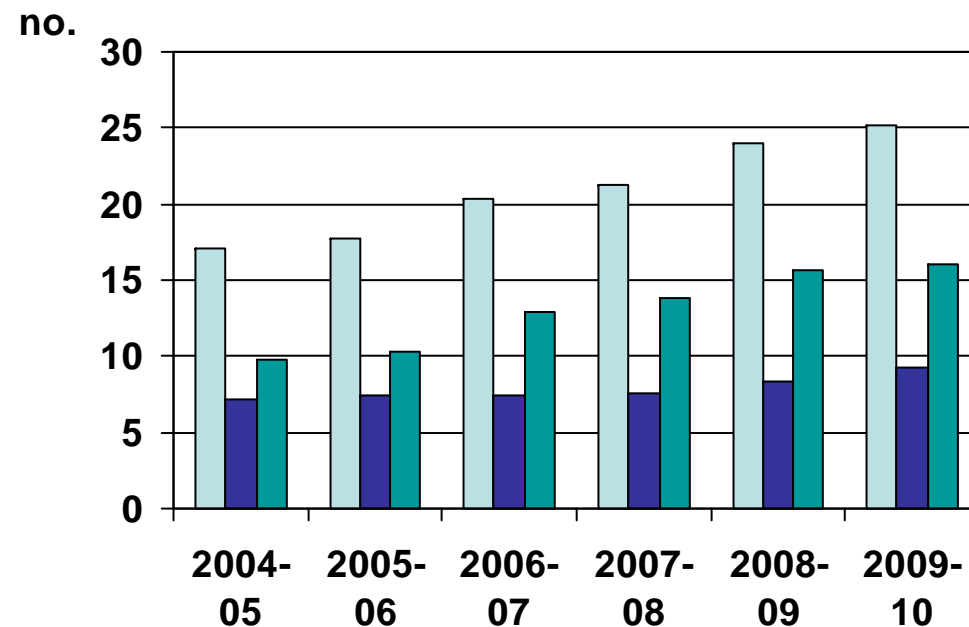
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## CRCs – bringing industry and research together

- In 2009-10 CRCs collaborated with 1,258 firms
  - 460 small (<20 employees)
  - 368 medium (20-99)
  - 430 large (100+)
- 226 firms were essential participants
- Still only small % of Australian firms

**Average number of firms collaborating with a CRC**



Source: DIISR, aggregated CRC Management Data Questionnaire (MDQ) data



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## CRCs – Why are they important?

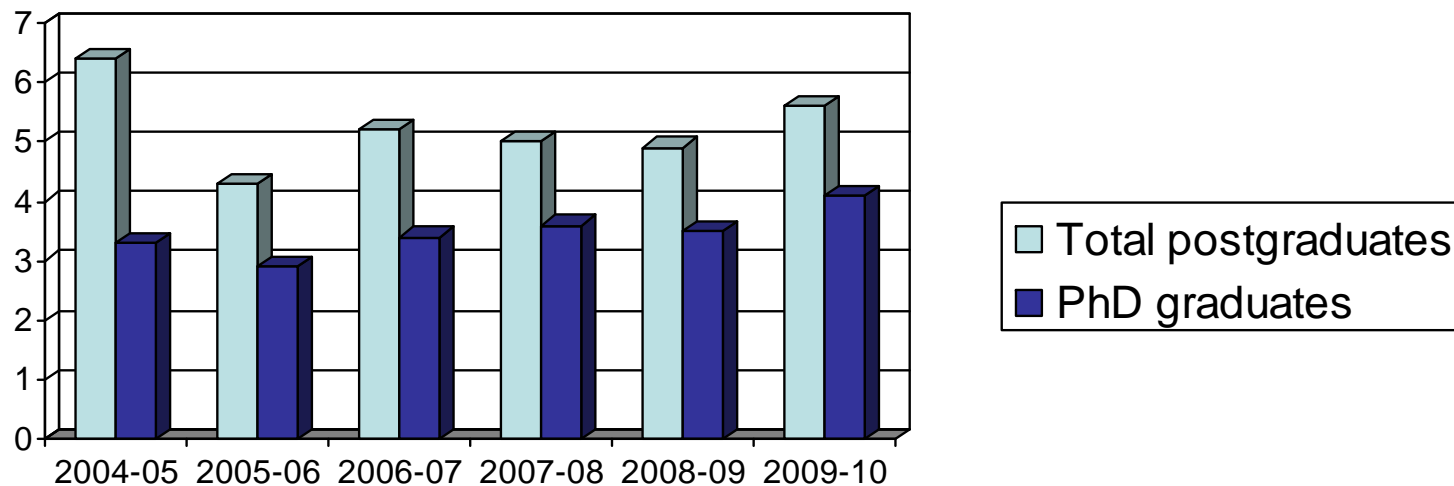
- Significant government program that delivers genuine collaboration between researchers and end users – they must work together
- Supports long term collaboration for end-user focused research with clear path to utilisation
- Capacity and capability building of the program – supply postgraduates to industry and brings greater awareness to university researchers and industry participants
- Builds critical mass with the time frame necessary to tackle major challenges



## CRCs – Building human capital

- CRC postgraduate program:
  - Around 1,800 graduates since 2005
  - Almost 1,500 postgraduate students enrolled at 30 June 2010
  - Between 2005 and 2010, CRCs produced an average of 4-6 industry-ready graduates each
  - Around 40-50% supervisors are from industry

**Average number of postgraduates per CRC**





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