Forging Industry Links Forum
University of Wollongong
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An ARC Perspective on Research Collaboration

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Overview

- Federal Government agency supporting all R&D
  - except medical and dental research
  - competitive, peer-reviewed proposals by investigators
  - limited strategic direction in specific fields

- Annual funding to University sector ~$600m (FY08/09)
  - about 10% of total Federal spend on R&D
  - increase from ~$250m in FY02/03
  - by FY10/11 will increase to ~$750m/yr
  - assess >5,500 proposals per year
  - 35 Centres of Excellence, Special or Co-funded Centres
  - 25 Research Networks

- Mission
  - to advance Australia’s research excellence to be globally competitive
  - and to deliver benefits – public good and commercial – to the community
Importance of Co-Funding

• Co-funding is a “revealed preference”
  – confirmation of research need
  – “pre-selection” process

• Co-funding is quantifiable
  – $ ARC + $ co-funder = $ project

• Happy co-funders are influential spokespersons
  – to whom others really listen
# Research Partnerships

## Competitive Schemes

<table>
<thead>
<tr>
<th></th>
<th>CRC Programme</th>
<th>ARC Centres of Excellence</th>
<th>ARC LP Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration (years)</strong></td>
<td>Min: 7</td>
<td>Min: 5</td>
<td>Min: 1</td>
</tr>
<tr>
<td></td>
<td>Max: 14 to ?</td>
<td>Max: 8-9</td>
<td>Max: 5</td>
</tr>
<tr>
<td><strong>C’wlth $/Centre</strong></td>
<td>$2m to $4m per year</td>
<td>Min: ~$1m/yr Max: ~$3m/yr</td>
<td>Min: $20k/yr Max: $2m/yr</td>
</tr>
<tr>
<td><strong>No of Industry Partners</strong></td>
<td>Required Av: 7-9 per CRC</td>
<td>Not Required Av: 4-6 per CoE</td>
<td>Required Av: 2 per grant</td>
</tr>
<tr>
<td><strong>Focus</strong></td>
<td>programmatic, thematic</td>
<td>programmatic, thematic</td>
<td>project, thematic</td>
</tr>
<tr>
<td><strong>Call Frequency</strong></td>
<td>2 years</td>
<td>2-3 years</td>
<td>6 months</td>
</tr>
<tr>
<td><strong>Success Rate</strong></td>
<td>10%-20%</td>
<td>&lt; 10%</td>
<td>40%-50%</td>
</tr>
<tr>
<td><strong>C’wlth $/year</strong></td>
<td>~$200m</td>
<td>~$65m</td>
<td>~$120m</td>
</tr>
</tbody>
</table>
ARC Research Centres
Materials Oriented

1997
Subatomic Structure of Matter (UAdel, Flind, UMelb, UTas, UNSW, ANU)

2000
Green Chemistry (Monash, UNew, UWA)
Particle and Material Interfaces (UniSA)
Particulate Fluids Processing (UMelb)

2003
Advanced Silicon Photovoltaics & Photonics (UNSW)
Quantum Computer Technology (UNSW, UQld, UMelb, ANU)
Solar Energy Systems (ANU)
Functional Nanomaterials (UQld, UNSW, ANU, UWSyd)
Ultra-high Bandwidth Devices (USyd, ANU, UTS, MacU, Swin, RMIT)

2005
Anti-Matter Matter Studies (ANU, Murdoch, Flind, UAdel, UWA, CDU, JCU, Open)
Design in Light Metals (Monash, Deak, UQld, UNSW, USyd, UMelb)
Electromaterials Science (UWoll, Monash)

Networks: Advanced Materials (ARNAM) and Nanotechnology (ARCNN)
ARC Centres Funding Profile

Materials related

<table>
<thead>
<tr>
<th>Funding Year</th>
<th>ARC</th>
<th>ARC Other</th>
<th>Other Cash</th>
<th>In-kind</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td></td>
<td></td>
<td>30.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2005</td>
<td>10.0</td>
<td>20.0</td>
<td>10.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2006</td>
<td>15.0</td>
<td>30.0</td>
<td>20.0</td>
<td>10.0</td>
</tr>
<tr>
<td>2007</td>
<td>20.0</td>
<td>40.0</td>
<td>30.0</td>
<td>20.0</td>
</tr>
</tbody>
</table>
ARC Centres Funding Profile

Materials related

Leverage 4:1 to 8:1
Linkage Projects

• Primary aim
  – Encourage and extend cooperative approaches to research by strengthening links within Australia’s innovation system and within innovation systems internationally
  – Economic, social, environmental, policy or scientific benefit

• Participant roles
  – Chief Investigator, Partner Investigator
  – APAI (Aust. Postgraduate Award, Industry)
  – APDI (< 3 years from PhD),
  – Linkage Industry Fellowships (LIF)

• Partners
  – Private sector; private non-profit organisation; a Govt org with funds not committed to internal research or any other purpose of research, evaluation and/or consultancy.
  – Does not fund medical and dental research & training
ARC Collaborative Projects
(All Fields)

Funding Year

No of Applications


All Applications
Funded Applications

SPIRT
LP Scheme
Collab+APAI
Linkage Projects Scheme
Gender by Submit Year

![Diagram showing success rate by gender and year](image-url)
Linkage Projects Scheme
Gender by Submit Year

22% to 33% of total cohort
Linkage Projects Scheme

Age Profile – Funded Projects

![Bar Chart showing age profile of funded projects across different age groups and gender categories.

- LP08R1F
- LP08R2F
- LP08R1M
- LP08R2M

Age Group:
- 25-29
- 30-34
- 35-39
- 40-44
- 45-49
- 50-54
- 55-59
- 60-64
- 65-69
- >=70

Numbers:
- LP08R1F
- LP08R2F
- LP08R1M
- LP08R2M

Australian Government
Australian Research Council

Research in the national interest – enabling the future
Partner Organisation Commitment
(Cash + In-kind)

SPIRT and Linkage Projects Schemes

<table>
<thead>
<tr>
<th>Submit Year</th>
<th>Total PO Pledged</th>
<th>Total PO Funded</th>
<th>Total ARC Funded</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>$100</td>
<td>$60</td>
<td>$40</td>
</tr>
<tr>
<td>1999</td>
<td>$150</td>
<td>$70</td>
<td>$50</td>
</tr>
<tr>
<td>2000</td>
<td>$200</td>
<td>$80</td>
<td>$60</td>
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<tr>
<td>2001</td>
<td>$250</td>
<td>$90</td>
<td>$70</td>
</tr>
<tr>
<td>2002</td>
<td>$300</td>
<td>$100</td>
<td>$80</td>
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<td>2003</td>
<td>$350</td>
<td>$110</td>
<td>$90</td>
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<td>2004</td>
<td>$400</td>
<td>$120</td>
<td>$100</td>
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<tr>
<td>2005</td>
<td>$450</td>
<td>$130</td>
<td>$110</td>
</tr>
<tr>
<td>2006</td>
<td>$500</td>
<td>$140</td>
<td>$120</td>
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</table>
## Partner Organisation Contributions
### 2005-2008
#### (millions)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Cash</th>
<th>%</th>
<th>In-kind</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Private Sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian</td>
<td>$89.8</td>
<td>36.5%</td>
<td>$164.5</td>
<td>37.1%</td>
<td>$254.3</td>
<td>36.9%</td>
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<tr>
<td>Overseas</td>
<td>$46.9</td>
<td>19.1%</td>
<td>$68.6</td>
<td>15.5%</td>
<td>$115.6</td>
<td>16.8%</td>
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<tr>
<td><strong>Sub-total</strong></td>
<td>$136.7</td>
<td>55.6%</td>
<td>$233.1</td>
<td>52.6%</td>
<td>$369.9</td>
<td>53.7%</td>
</tr>
<tr>
<td><strong>Government Sector</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Australian</td>
<td>$17.2</td>
<td>7.0%</td>
<td>$21.3</td>
<td>4.8%</td>
<td>$38.5</td>
<td>5.6%</td>
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<tr>
<td>State &amp; Local</td>
<td>$58.9</td>
<td>23.9%</td>
<td>$126.1</td>
<td>28.5%</td>
<td>$184.9</td>
<td>26.8%</td>
</tr>
<tr>
<td>Overseas</td>
<td>$5.1</td>
<td>2.1%</td>
<td>$5.1</td>
<td>1.2%</td>
<td>$10.2</td>
<td>1.5%</td>
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<tr>
<td><strong>Sub-total</strong></td>
<td>$81.2</td>
<td>33.0%</td>
<td>$152.4</td>
<td>34.4%</td>
<td>$233.7</td>
<td>33.9%</td>
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<tr>
<td><strong>Non-Profit Sector</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Australian</td>
<td>$23.7</td>
<td>9.6%</td>
<td>$50.9</td>
<td>11.5%</td>
<td>$74.6</td>
<td>10.8%</td>
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<tr>
<td>Overseas</td>
<td>$4.3</td>
<td>1.8%</td>
<td>$6.5</td>
<td>1.5%</td>
<td>$10.9</td>
<td>1.6%</td>
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<tr>
<td><strong>Sub-total</strong></td>
<td>$28.1</td>
<td>11.4%</td>
<td>$57.4</td>
<td>13.0%</td>
<td>$85.5</td>
<td>12.4%</td>
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<tr>
<td><strong>Totals</strong></td>
<td>$246.0</td>
<td>100.0%</td>
<td>$443.0</td>
<td>100.0%</td>
<td>$689.0</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Total ARC Commitment: $467.5m
Partner Organisation Participation
Linkage Projects Scheme

*New Partners: first occurrence as Partner Organisation on any project (since 1995)
Total for Period: 3,118 (funded)
Partner Organisation Participation
Linkage Projects Scheme

Number of Partners

Funding Year

- Repeat Customers-Funded
- New Customers-Funded
- Repeat Customers-All
- New Customers-All
Partner Organisation Participation
Linkage Projects Scheme

% of Total Cohort

Funding Year

New Business-Funded
Repeat Business-Funded
Repeat Business-All
New Business-All
Partner Organisation Views: Why Use LP Scheme?

- Chance of success is reasonably high: 47% Important, 10% Not Important
- Possible to obtain larger grants: 76% Important, 2% Not Important
- Access to highly skilled research personnel: 88% Important, 2% Not Important
- Opportunity to build longterm relationships with uni researchers: 92% Important, 2% Not Important

Worthington Di Marzio Research Pty Ltd, 2006
Linkage Projects Scheme
Multiple Partnerships

Universities ~ 39
P Orgs in 1999 ~ 1,400
P Orgs in 2008 ~ 6,600

Building Capacity
Summary

• Centres of Excellence Scheme
  ➢ highly competitive and collaborative
  ➢ end-user engagement; mutual associations
  ➢ typical leverage 4x; excellent outcomes

• Linkage Projects Scheme
  ➢ 50%-60% of total PO cohort is private sector
  ➢ 20%-25% of total PO cohort is international
  ➢ > 3,000 new POs in R&D between 2000–2008
  ➢ repeat business >30% for past seven years

• Factors in Research Partnerships
  ➢ roles and responsibilities – academic; industry
  ➢ long-term strategic R&D & commitment
  ➢ relationships – building, maintaining and enhancing
Thank You