



# Innovation and Research

## Trends in Research Commercialisation

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# Research enables innovation

- **If innovation is the application of a novel idea to create something of value to others**

THEN

**Innovation = 'Discovery' + 'Commercialisation'**

- **Research can be the source of many novel ideas (but is not innovation on its own)**
- **Commercialisation is the application or conversion process**



# Research

- **Excellence in research remains absolutely imperative**
- **..but should not be measured solely on publications and citations alone**
- **Translation of research is worth something too!**



# Research Commercialisation

## It's about the triple bottom line

- **Economic development**
  - e.g. advances in mining services (Groundprobe)
- **Environmental sustainability**
  - e.g. clean water technologies (Biolytix)
- **Health and community outcomes**
  - e.g. incontinence monitoring (Fred Bergman Healthcare)



# GroundProbe - Mine site slope stability monitoring



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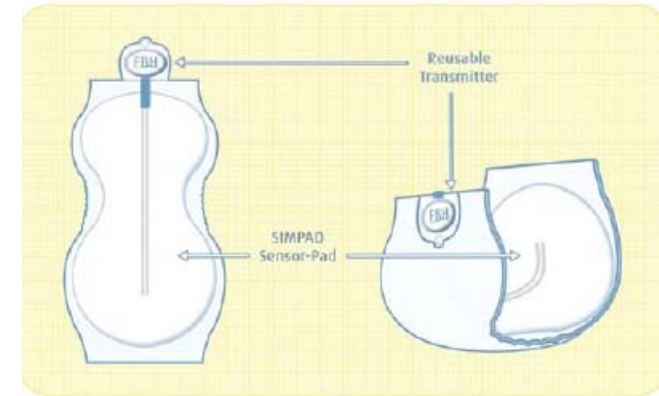
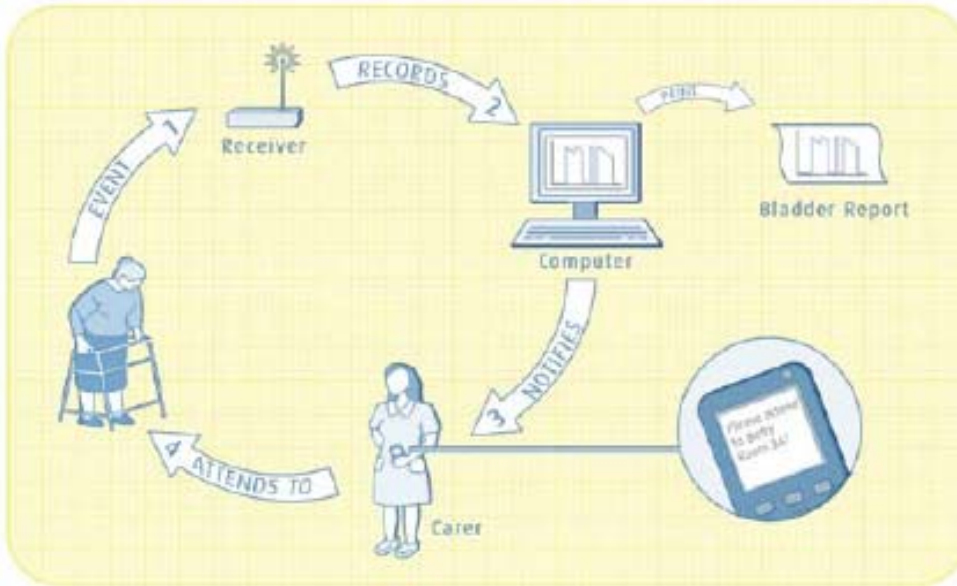


# Biolytix – grey water recycling





# Fred Bergman Healthcare – improving quality of life for the elderly



**FredBergman**  
HEALTHCARE

**AIC** Australian Institute  
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# The trends

- **‘Linear’ commercialisation indicators have dropped (as a % of research spend)**
- **Broad commercialisation indicators are better**
  - contract research and consultancy income an order of magnitude higher than licence income
  - collaboration is the most meaningful indicator
- **Only 2% of Australian industry collaborate with the research sector – collaboration results in commercialisation and innovation.**



# External collaboration by firms

|   | EU27       | Den.       | Ire.       | Fin.       | Neth.      | Swed.      | Australia  |
|---|------------|------------|------------|------------|------------|------------|------------|
| <b>Innovating enterprises</b>   | <b>42%</b> | <b>52%</b> | <b>52%</b> | <b>43%</b> | <b>34%</b> | <b>50%</b> | <b>34%</b> |
| <b>Collaboration with clients or customers</b>                              | <b>14%</b> | <b>28%</b> | <b>25%</b> | <b>41%</b> | <b>22%</b> | <b>28%</b> | <b>12%</b> |
| <b>Collaboration with suppliers</b>   | <b>17%</b> | <b>28%</b> | <b>23%</b> | <b>41%</b> | <b>30%</b> | <b>32%</b> | <b>11%</b> |
| <b>Collaboration with universities or other higher education institutes</b> | <b>9%</b>  | <b>14%</b> | <b>10%</b> | <b>33%</b> | <b>12%</b> | <b>17%</b> | <b>2%</b>  |
| <b>Collaboration with public research institutes or govt. agencies</b>      | <b>6%</b>  | <b>7%</b>  | <b>6%</b>  | <b>26%</b> | <b>9%</b>  | <b>6%</b>  | <b>3%</b>  |
| <b>All types of external collaboration</b>                                  | <b>26%</b> | <b>43%</b> | <b>32%</b> | <b>44%</b> | <b>39%</b> | <b>43%</b> | <b>28%</b> |

From Steen ABF (eurostat news release 27/2007 22 Feb. 2007 and ABS Cat. 8158.0)

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External collaboration by innovating firms in the EU (2002-04) & Australia (2004-05)



# Collaboration and connectedness with the research sector are not straightforward

- **Most interactions are one-off**
  - No single model, entry point or process to work with the research sector
  - Different skills, agendas, and cultures
- **Knowledge to be transferred may not be identifiable**
  - IP is not 'packaged' and waiting
  - Different perceptions of risk and IP value
- **The transaction costs of working with a small company are high for a research organisation**



## The national challenge of innovation

- **Innovation is inherently risky**
- **There is a general lack of awareness about the organisational, economic, and social benefits from innovation**
- **Collaboration is all about people, trust, and relationships**



# Suggestions to improve the role of research within innovation

- **Focus on skills development in innovation and commercialisation – including creativity in business**
- **Increase collaboration**
  - identify demand pull from companies or communities
  - use incentives for research organisations
  - scale-up of ‘untethered’ intermediary organisations
- **Provide funding for proof of concept and feasibility demonstration projects**
  - provides a more tangible expression of know-how and IP
- **Host industry round-tables to align appropriate research**
  - gain a shared understanding of the issues and challenges
  - collaborative R&D can be a prelude to government procurement