ICT Research

Maximising the benefits

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Australian Government
Department of Broadband, Communications and the Digital Economy
Australian Research Council

NICTA Funding and Supporting Members and Partners

ANU The Australian National University
UNSW The University of New South Wales
NSW Government Industry & Investment
Victoria The Place To Be
The University of Melbourne
The University of Sydney
Queensland Government
Griffith University
QUT Queensland University of Technology
The University Of Queensland Australia

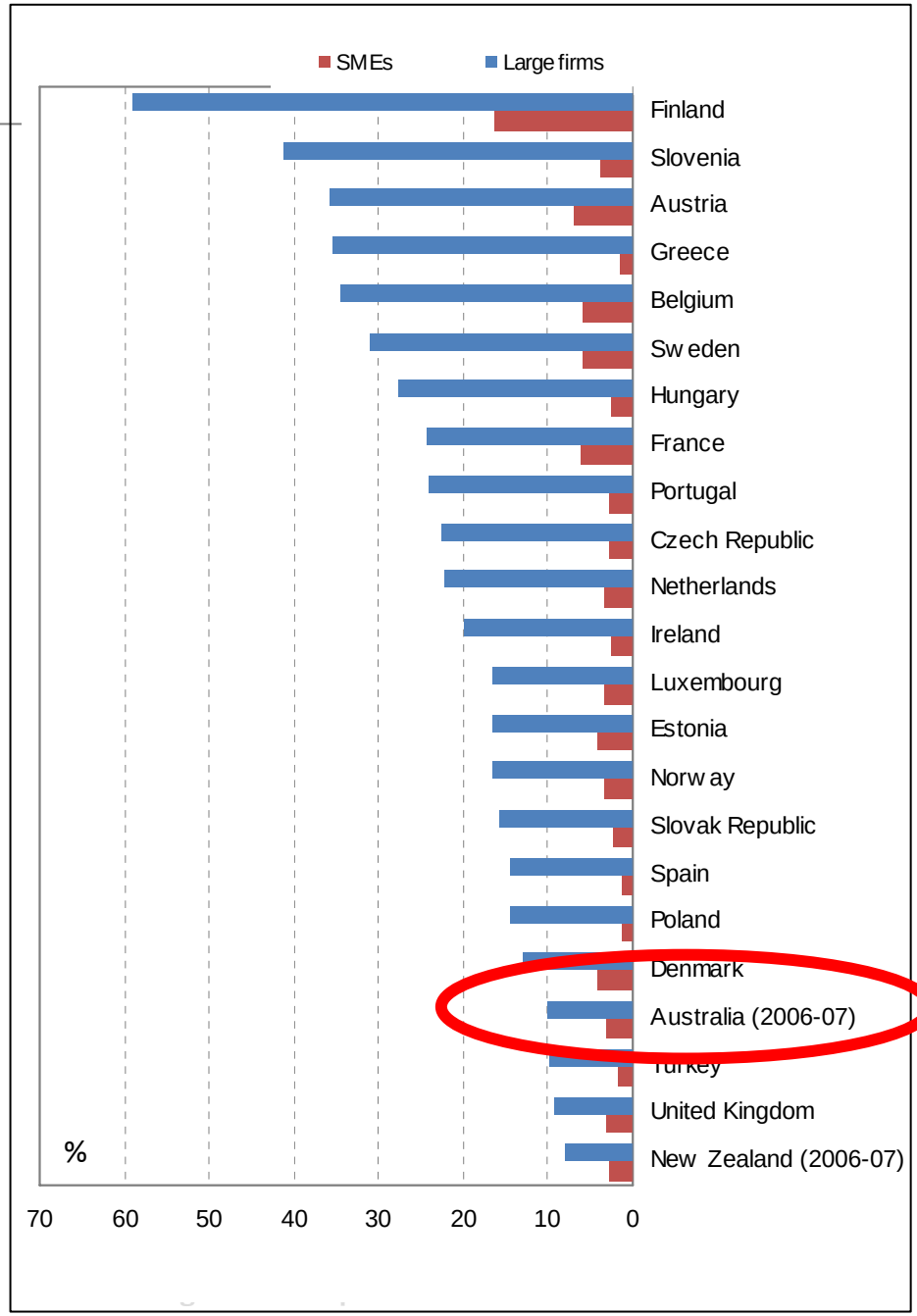
Outline

- **Target outcomes**
- **Engagement approach**
- **IP Strategy**

Target Outcomes

Collaboration

Firms collaborating on innovation with higher education institutions by size, 2004-06



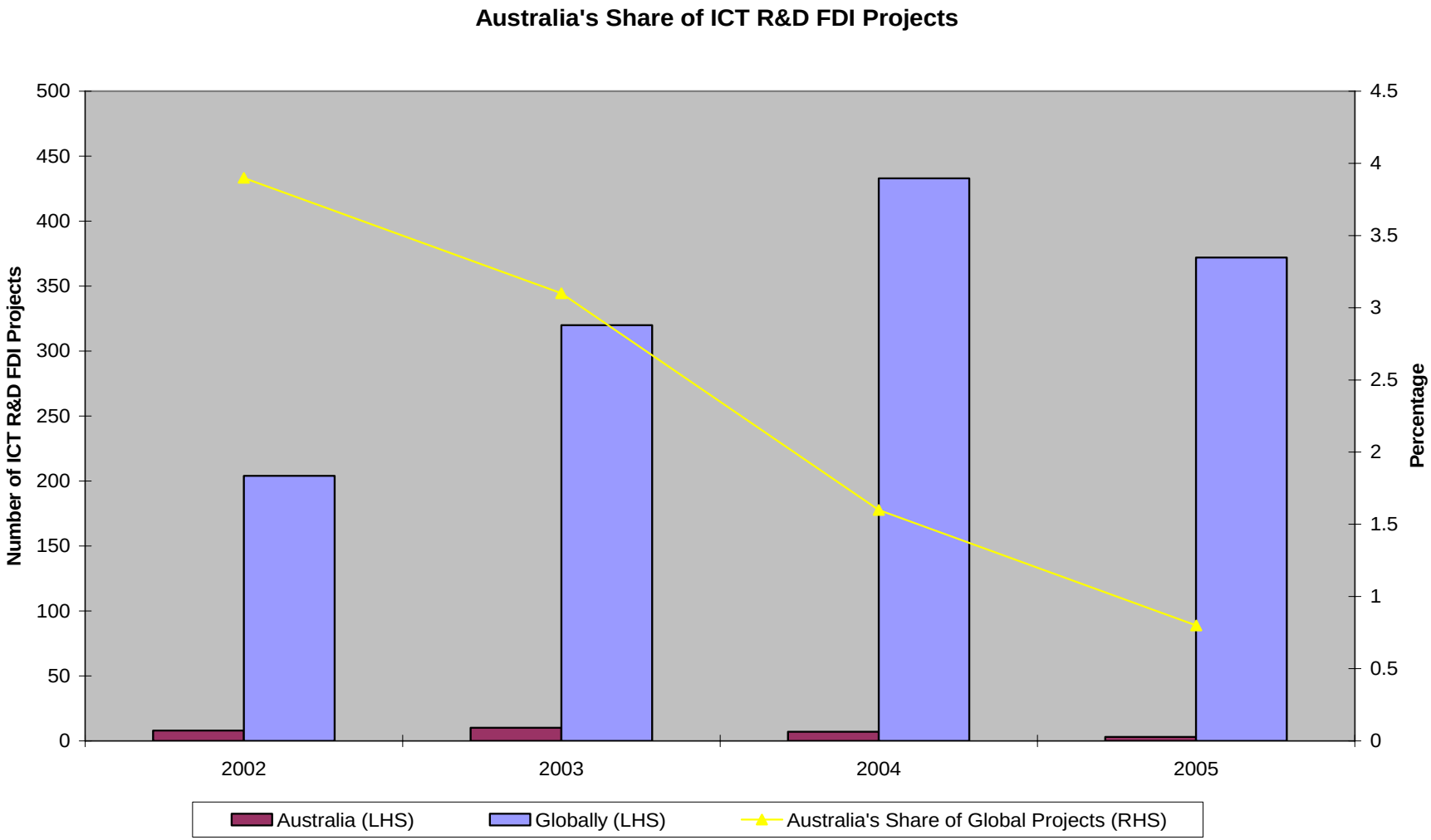
OECD Science, Technology and Industry Scoreboard 2009 - OECD © 2009

Australian Research Commercialisation

- ***Total research commercialisation in Australia (2007)**
  - Contract Research and Consultancies $1,233m
  - LOA (Licensing and other activity) $221m gross, $214m net (includes Monash IVF assignment $101m, Gardasil $45m)
  - Total value of all equity holdings $196m
  - Capital raised for start-ups etc $199m
- **Lead times for licencing, equity cashed in, etc can be long**
  - eg CSIRO Wireless LAN, ~15-20 years)
- **Key message**
  - R&D Services is the most significant source of Research Commercialisation revenue

*Source: National Survey of Research Commercialisation 2005-2007, published by DIISR in July 2009

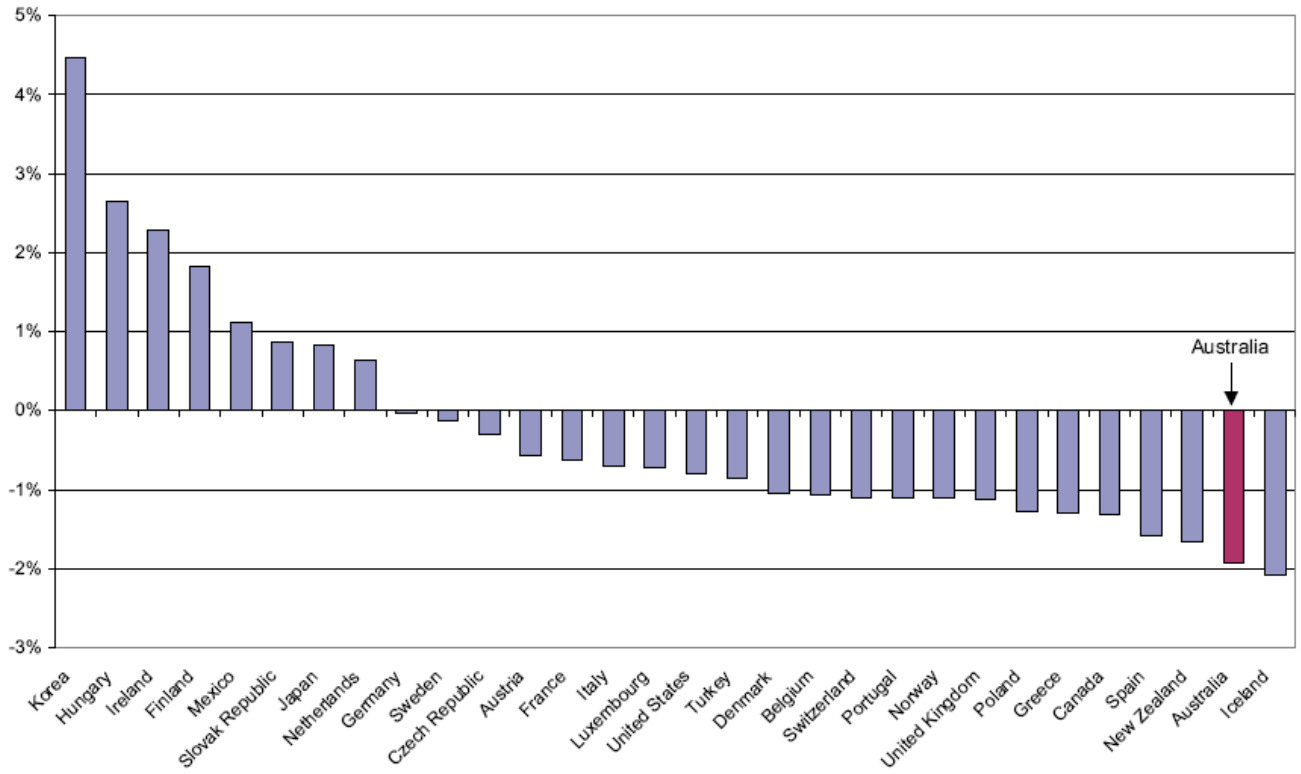
ICT R&D FDI Trends



Source: OCO Consulting, LOCOmonitor database, accessed May 2006

The Cost of Australia's ICT Trade Deficit

Figure 7.3 ICT Equipment Surplus/Deficit as a Percentage of GDP, 2007 (per cent)



Source: OECD, CSES Analysis.

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Engagement approach

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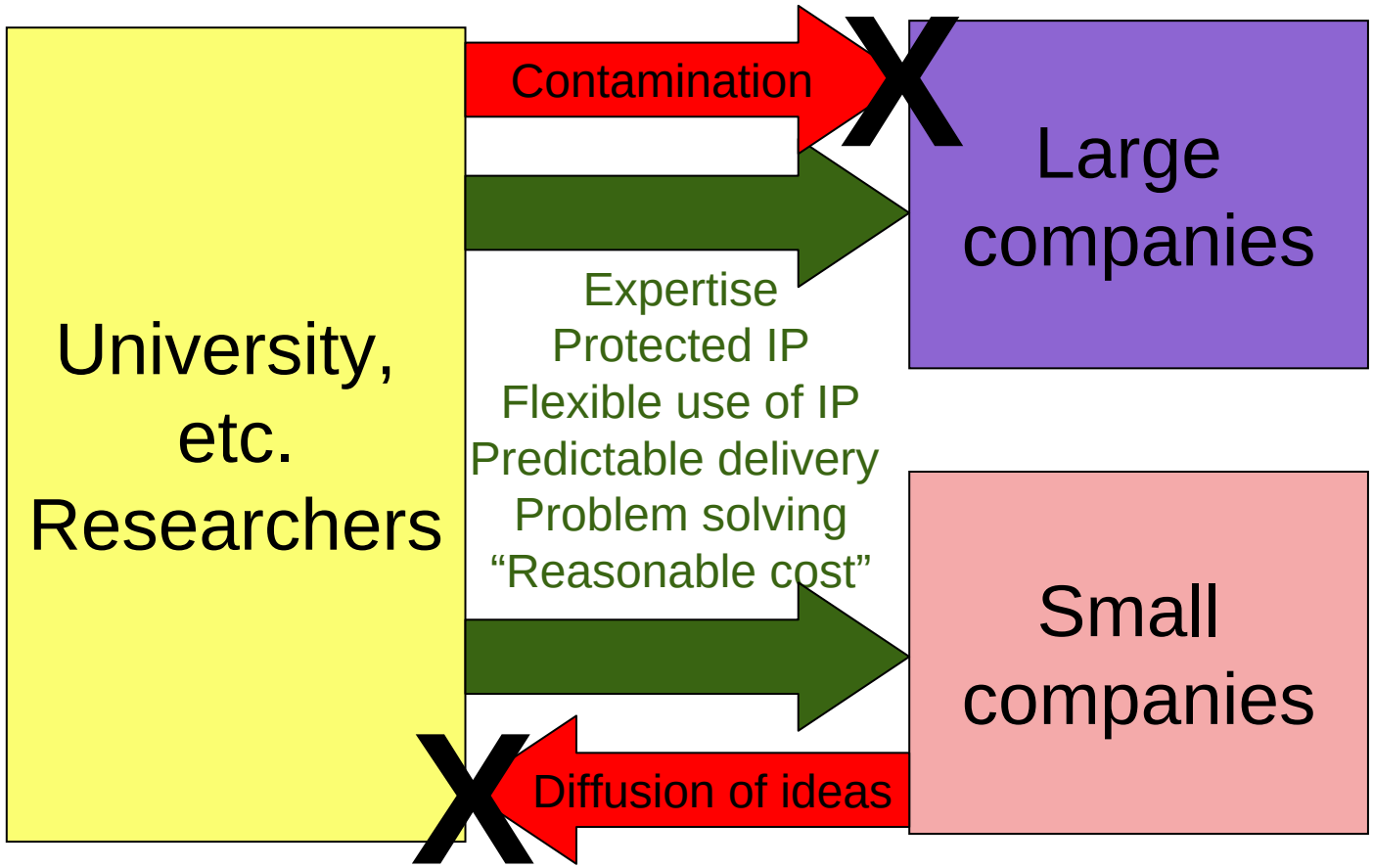
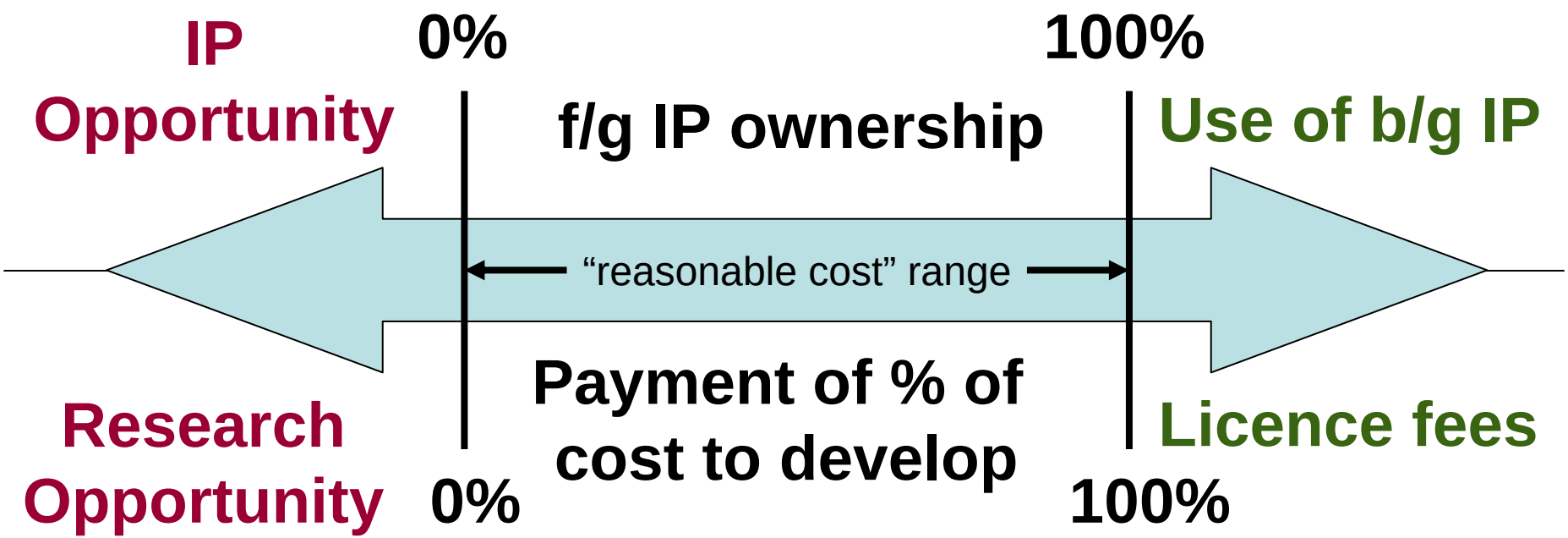
Barriers to engagement



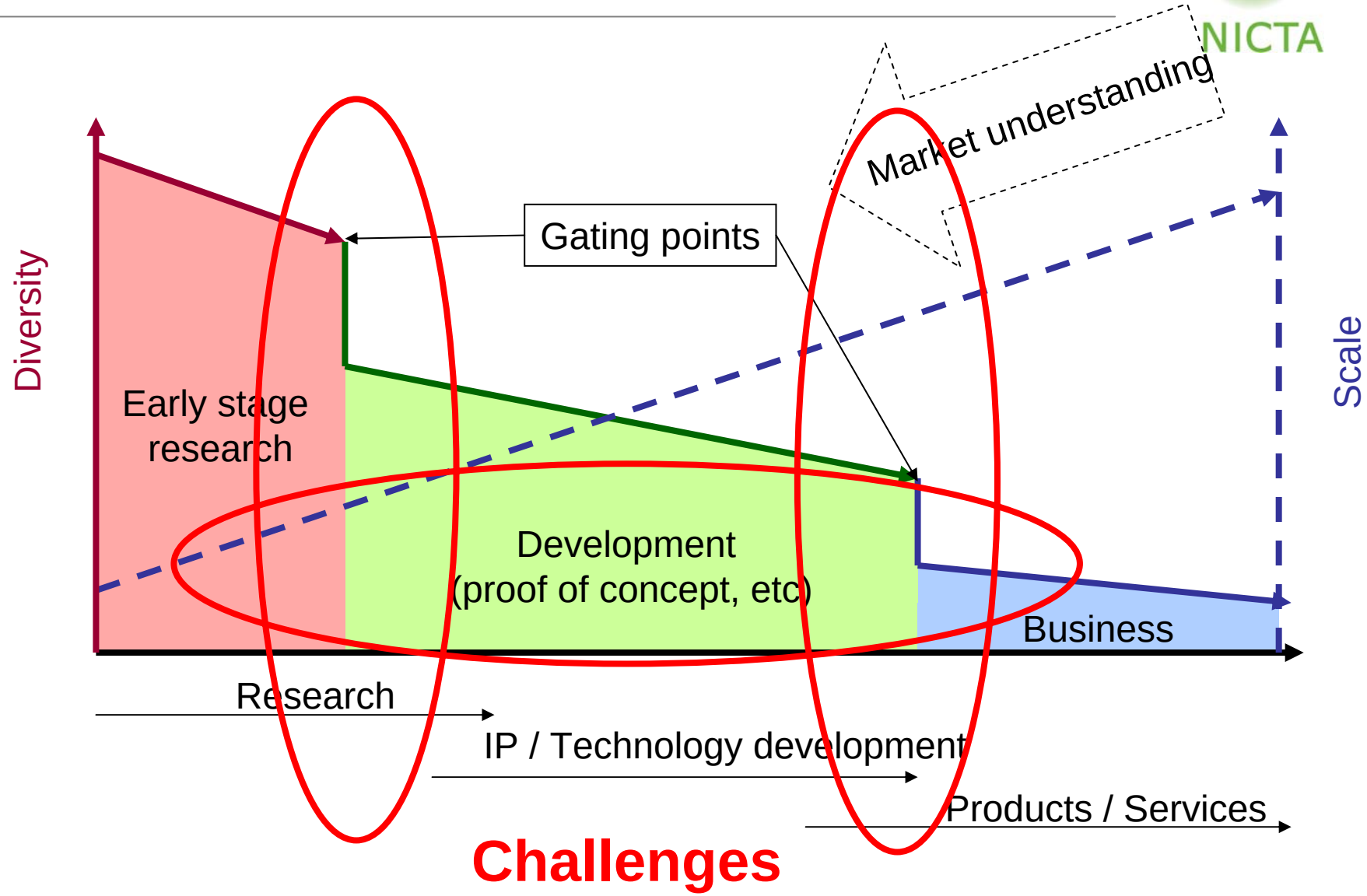
“Reasonable cost” and IP

- **What is “reasonable cost”?**

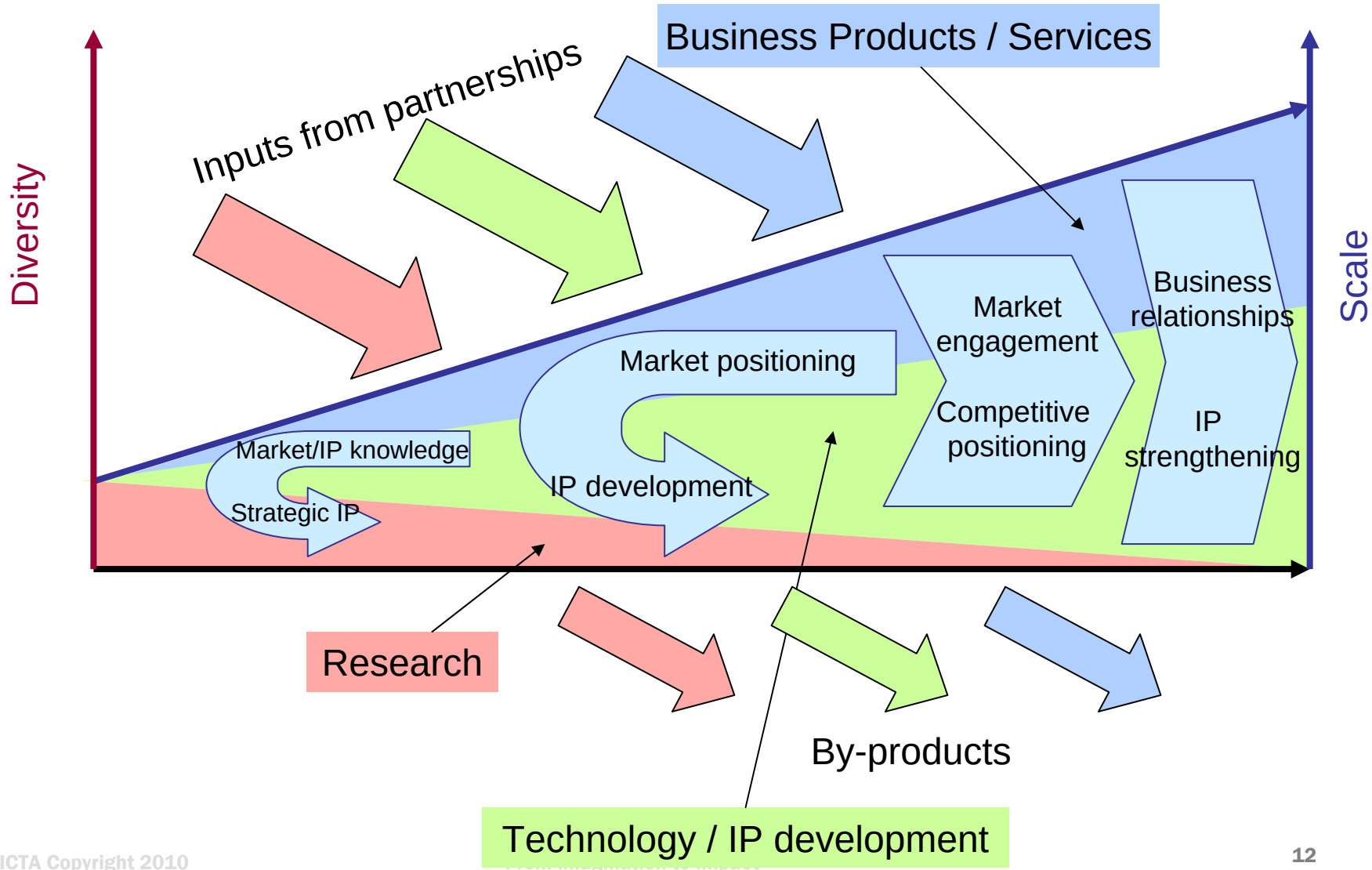


Need to understand the current and likely value-chain

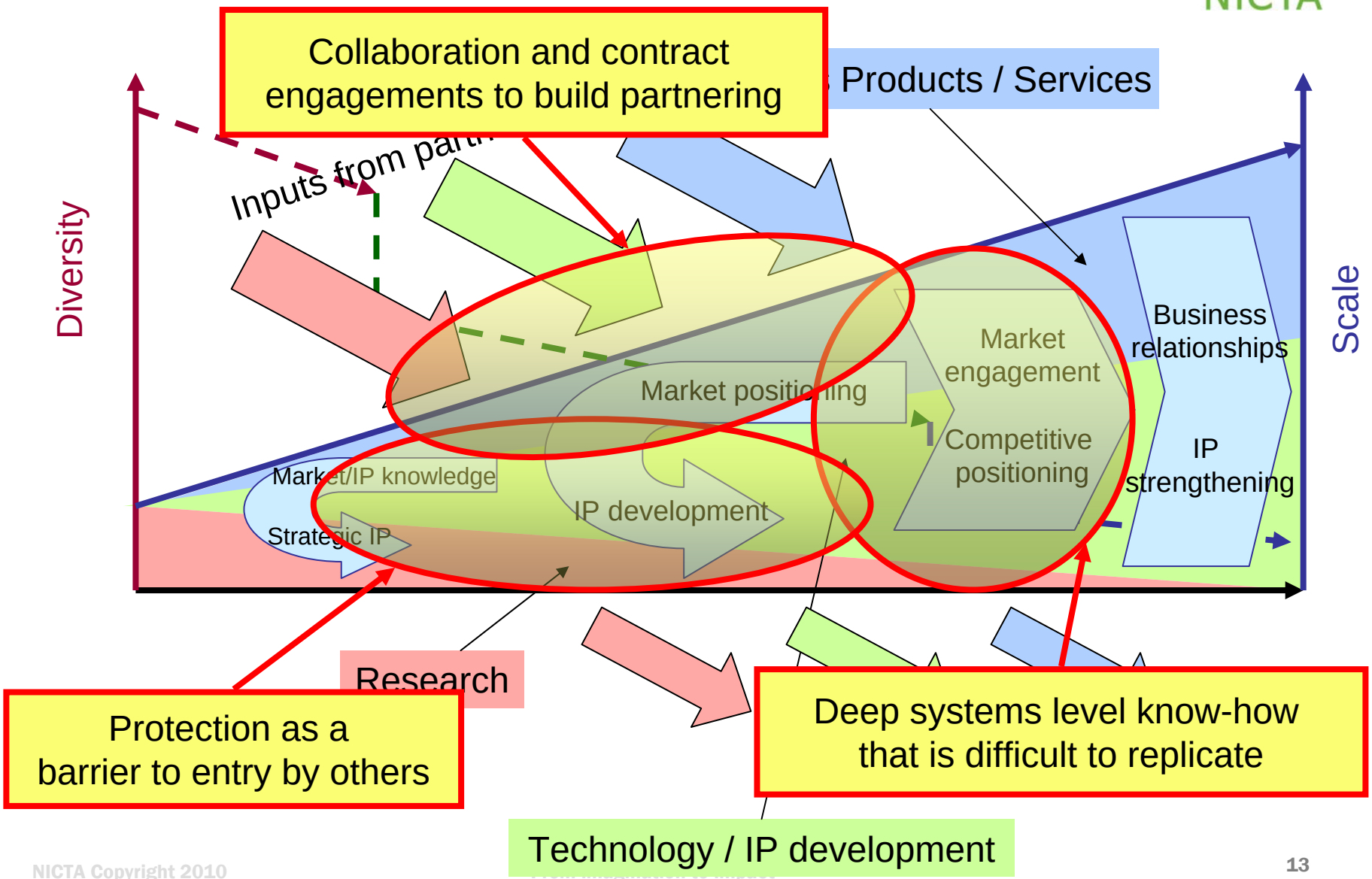
Traditional Innovation “Funnel”



Target Innovation Model



Building competitive advantage



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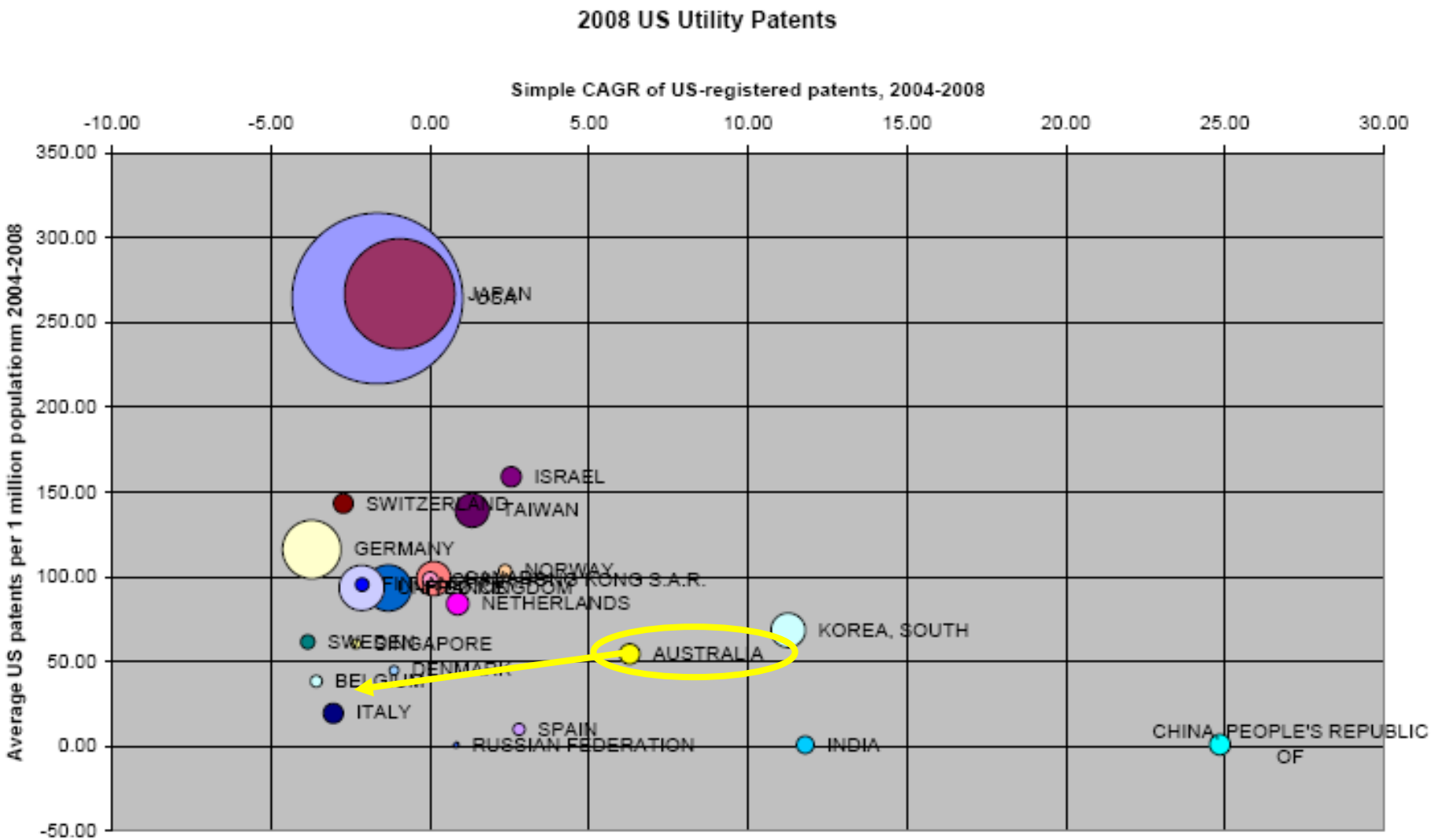
IP Strategy

Australian patenting in US



US patents by Australians (by org'n)

First-Named Assignee	2005	2006	2007	2008	2009	Total
SILVERBROOK RESEARCH PTY. LTD	247	510	533	608	474	2372
~INDIVIDUALLY OWNED PATENT	129	157	132	94	113	625
CANON KABUSHIKI KAISHA (CiSRA)	27	39	40	21	24	151
CSIRO	23	30	13	10	19	95
RESMED LIMITED, AN AUSTRALIAN COMPANY	21	27	17	10	19	94
AVAYA TECHNOLOGY CORP.	3	11	7	15	16	52
COCHLEAR LIMITED	1	5	10	12	16	44
TECHNOLOGICAL RESOURCES PTY, LTD	1	1	1	3	15	21
COMPUTER ASSOCIATES THINK, INC.	0	1	2	3	10	16
CISCO TECHNOLOGY, INC.	7	7	6	14	9	43
QUALCOMM, INC.	4	1	6	14	9	34
UNIVERSITY OF QUEENSLAND	6	11	8	8	8	41

Total 1221

2005 US Patents – Top 10 US Universities

390	University of California
136	Massachusetts Institute of Technology
101	California Institute of Technology
90	Stanford University **
90	University of Texas **
77	University of Wisconsin
71	Johns Hopkins University **
71	University of Michigan **
64	University of Florida
57	Columbia University

20 US Universities had 30 or more US patents granted in 2005

2009 US patents - Top 10 Organisations

	2009
INTERNATIONAL BUSINESS MACHINES CORPORATION	4887
SAMSUNG ELECTRONICS CO., LTD.	3592
MICROSOFT CORPORATION	2901
CANON KABUSHIKI KAISHA	2200
Panasonic Corporation	1759
TOSHIBA CORPORATION	1669
SONY CORPORATION	1656
INTEL CORPORATION	1534
SEIKO EPSON CORPORATION	1328
HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.	1269

And note that software can be patented ….

A high proportion of these are ICT companies….

Systematic approach to IP strategy

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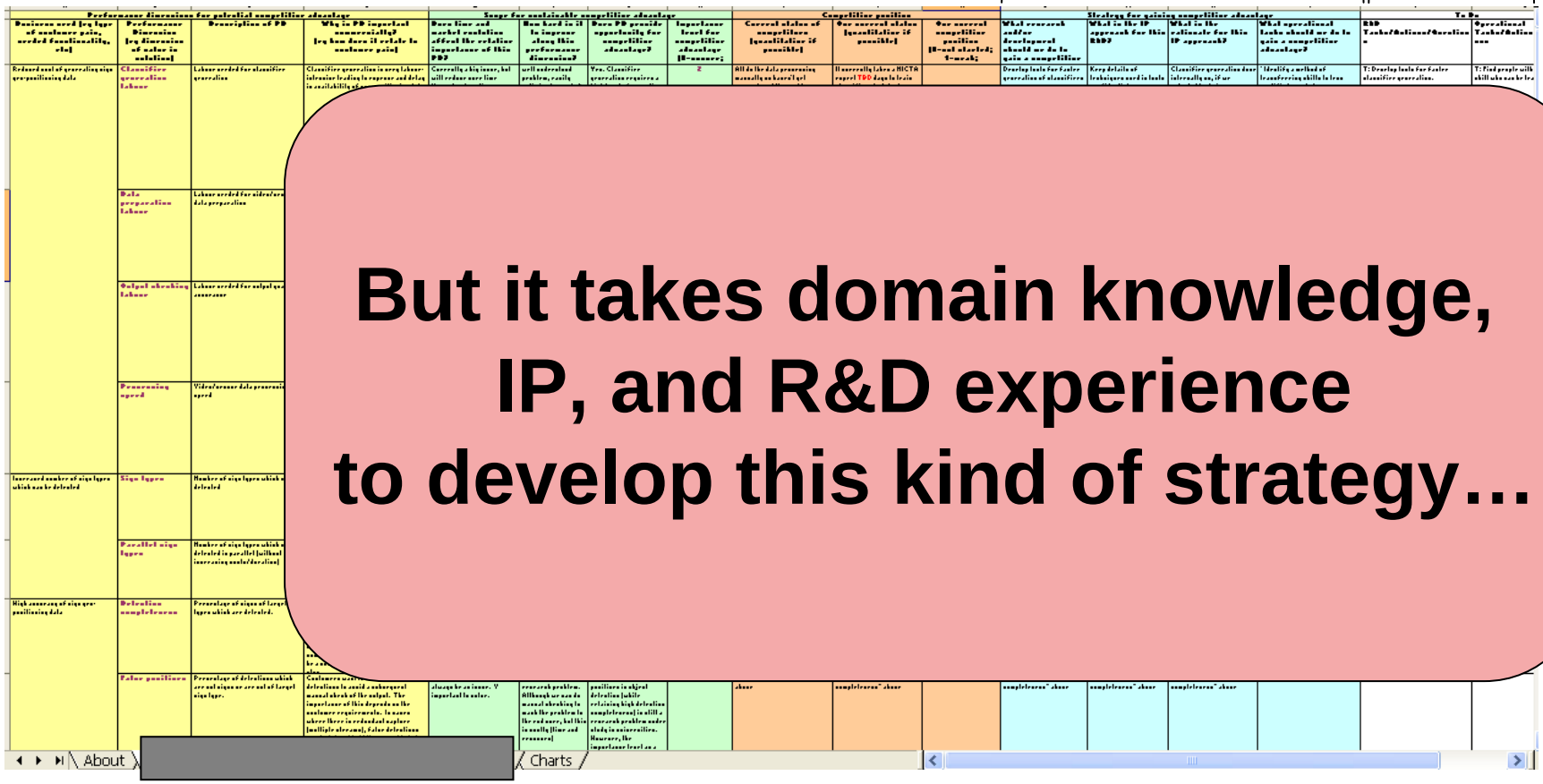
Performance dimensions for competitive advantage → Scope for sustainable competitive advantage → Current competitive position → Strategy for gaining competitive position (including IP Strategy) → To Do



But it takes domain knowledge, IP, and R&D experience to develop this kind of strategy…

“Australian ICT IP Inc” (public funded R&D)

- **Need for standard approach to IP**
  - Contracts for research services and licencing
  - Management of portfolios
- **Standard may be too hard to achieve**
  - “Opt-in” default ??
  - “Opt-out” option for special cases
- **Support for**
  - Sector domain knowledge in technologies and IP strategy
  - Management of IP portfolios
  - Reasonable returns to inventors, owners, etc

Summary

- **Grow the ICT R&D sector**
  - Target greater R&D Services activity
- **Engage earlier**
  - Build partnerships, know the value chain
- **Take a strategic approach to IP**
  - Know how industry uses IP

Thank you

For further information on NICTA…

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