

Arthur D Little

**Sustainability: Market opportunities
& ICT**

Selected slides for conference material

**ETNO Presentation
by Justin Keeble**

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Arthur D. Little Limited
Science Park, Milton Road
Cambridge CB4 0XL
United Kingdom
Telephone +44 (0)1223 392090
Fax +44 (0)1223 420021
www.adlittle.uk.com

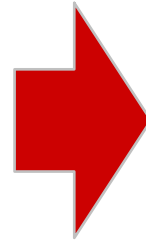


Arthur D. Little has observed a change in the way business is approaching its social and environmental responsibilities

A paradigm shift is occurring

From responsibility

- Understanding impacts
- Managing and reducing impacts
- Reporting progress



To opportunity

- Understanding markets
- Identifying opportunities
- Delivering new products and services that deliver social and environmental benefits



The presentation explores three key messages

1	Innovation is critical to business performance
2	Sustainability + Innovation = business opportunity
3	Exploiting these opportunities requires creativity!

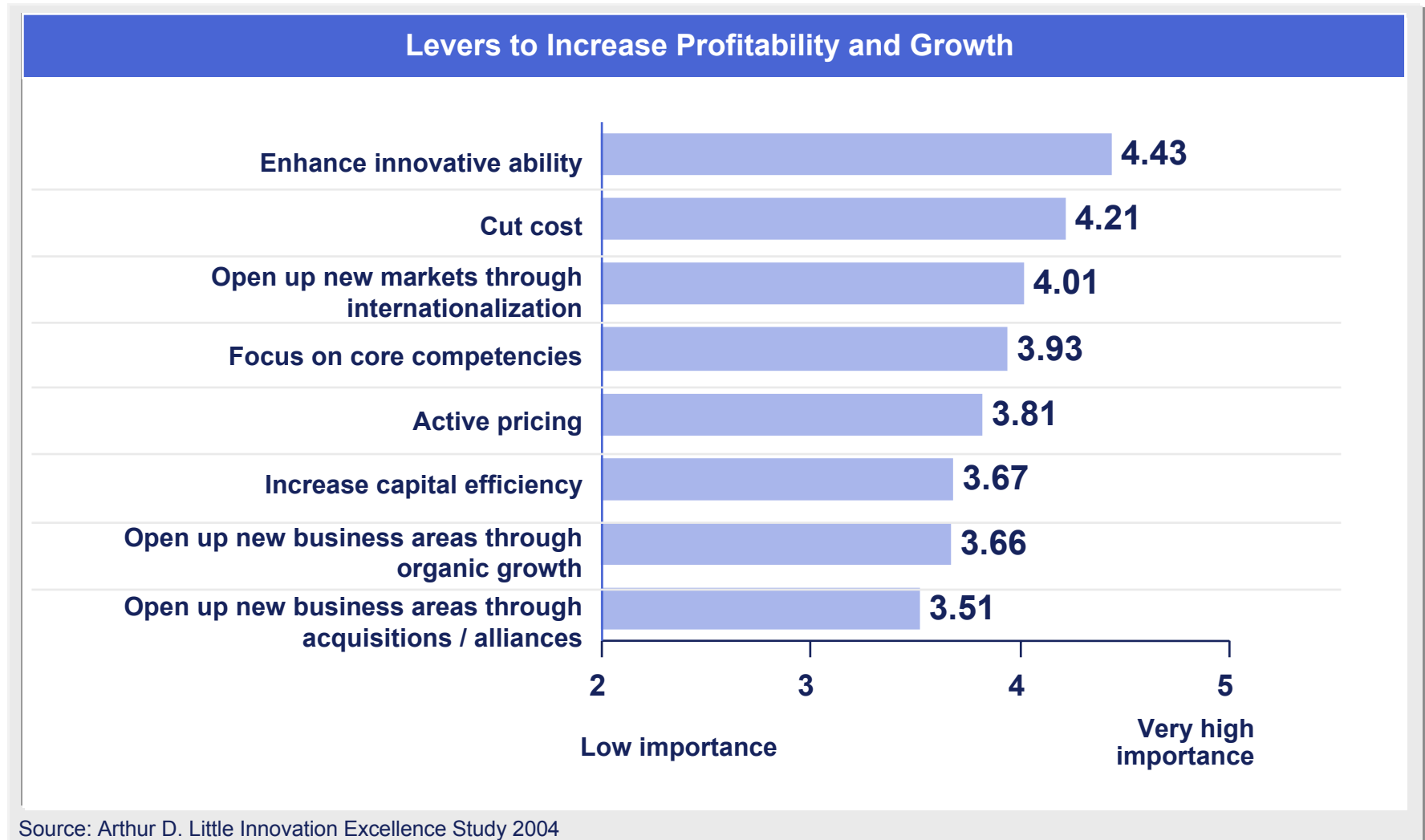
Please note that the presentation delivered at the ETNO conference may be slightly adapted from the version presented here



1	Innovation is critical to business performance
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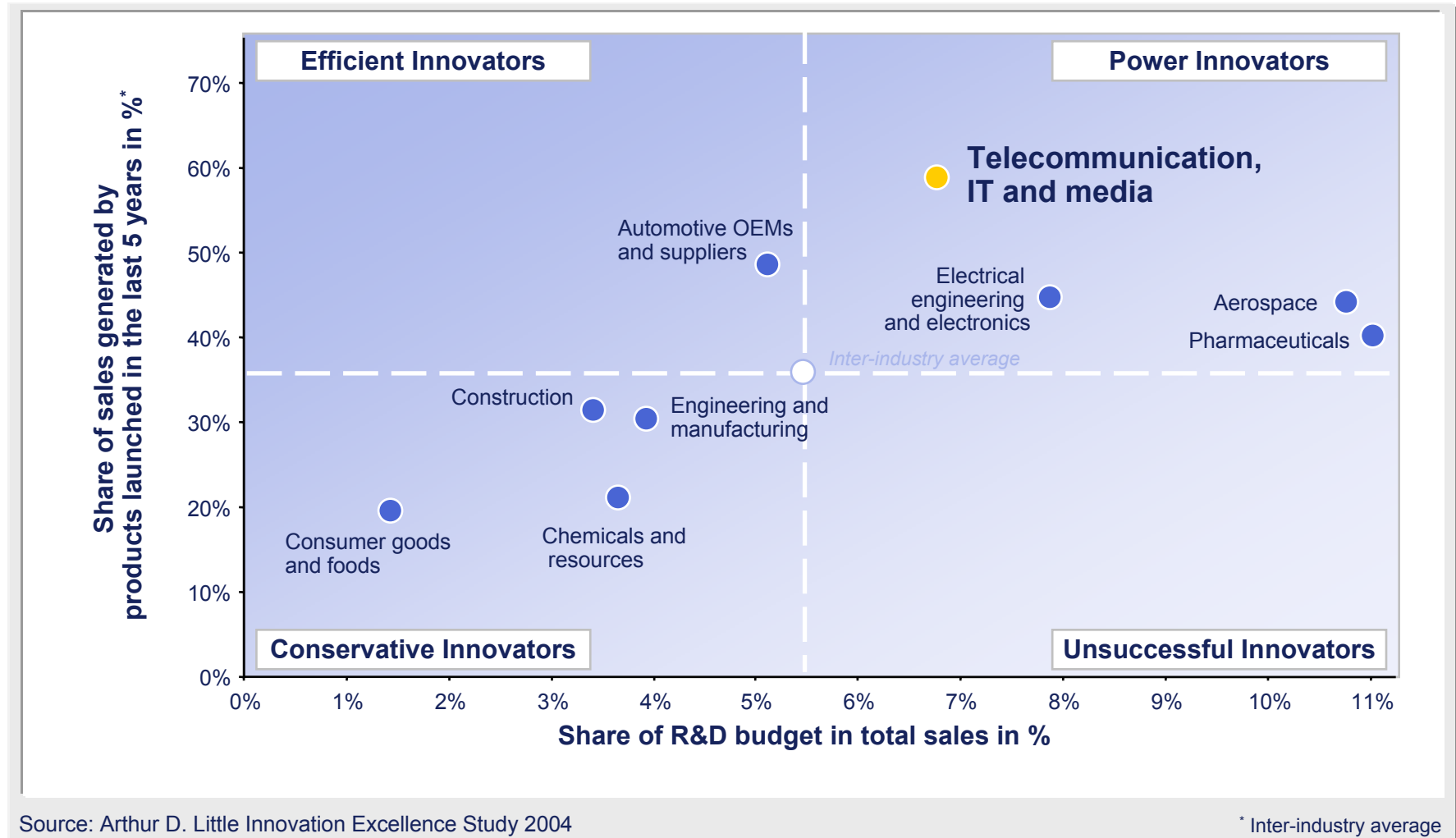
Enhancing the innovative ability is seen as most important lever to increase profitability and growth



Innovation is critical to business performance

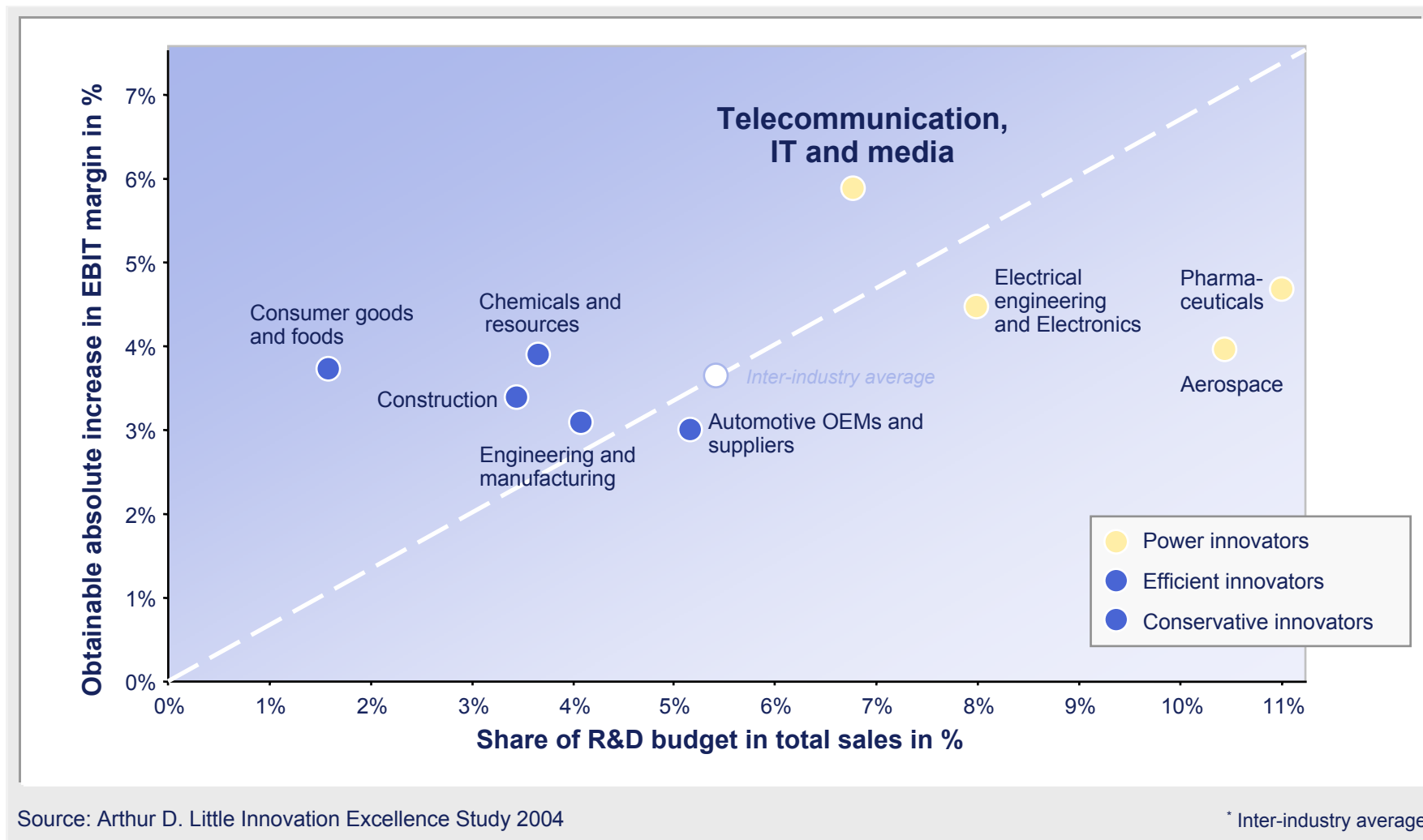


Telcos, IT and Media are Power Innovators. Sales from products launched in the last 5 years are high relative to total sales and R&D budgets are high relative to sales





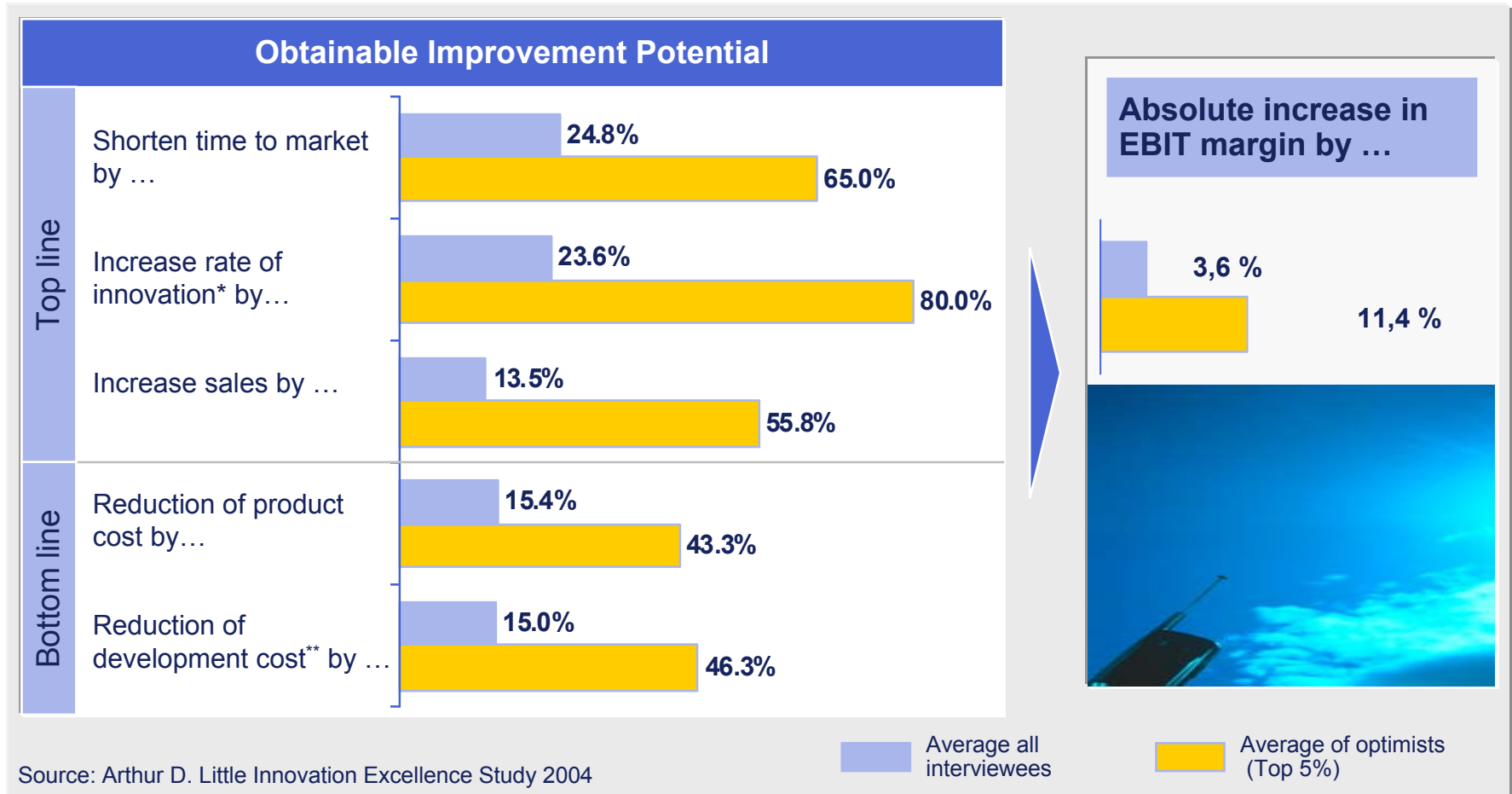
Power innovators have to invest in innovation, but in doing so can tap significant EBIT gains through innovation excellence.



Innovation is critical to business performance



Our research has found that Innovation Excellence can increase the EBIT margin by an average of 3,6 % while top innovators realize up to 11,4 %



* Number of successful new product launches per year ** Project specific

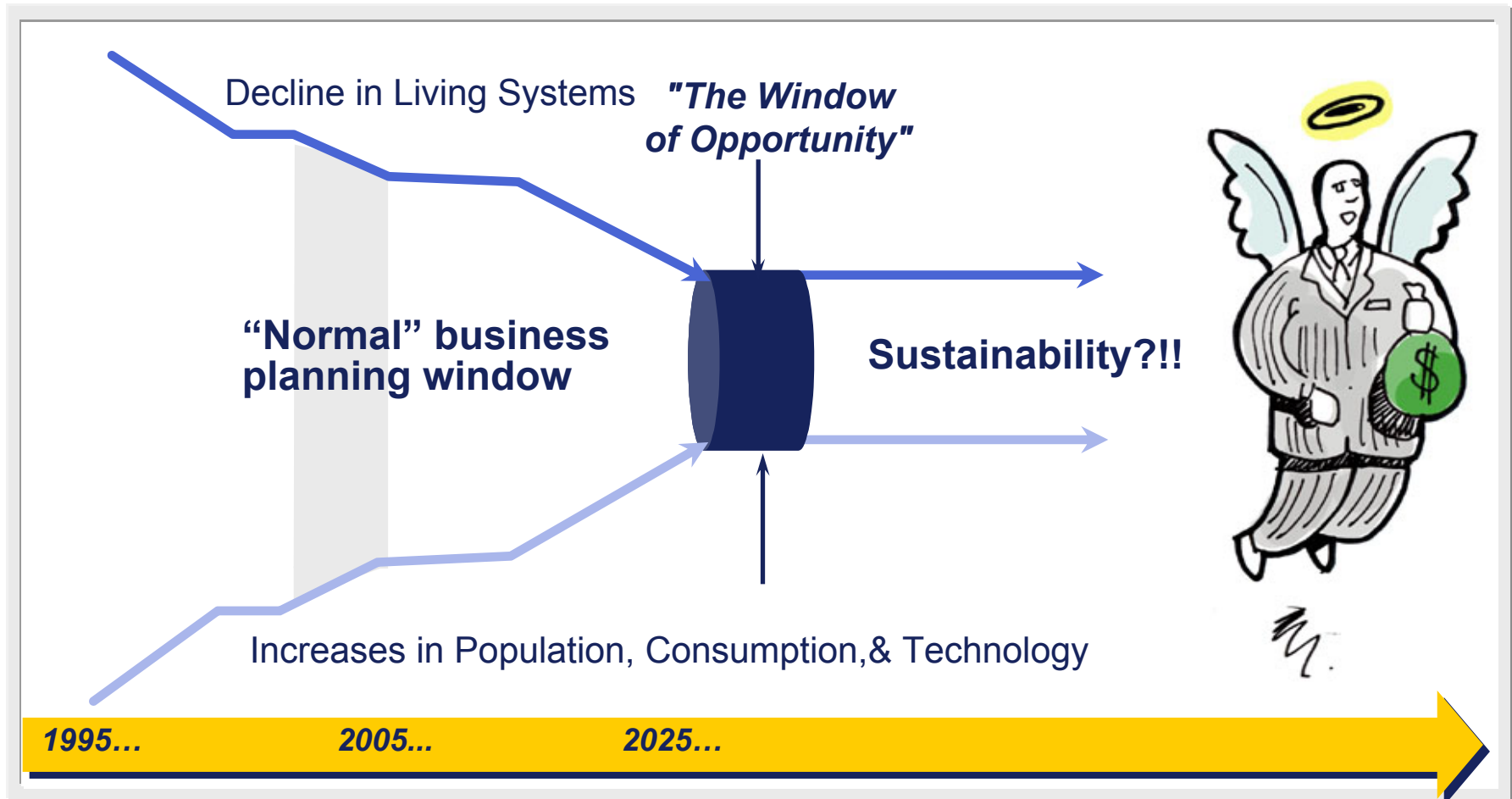
Innovation is critical to business performance



1	Innovation is critical to business performance
2	Sustainability + Innovation = business opportunity
	2.1 Product & service opportunities
	2.2 New market opportunities
3	Exploiting these opportunities requires creativity!



Global sustainability challenges are presenting business with a window of opportunity



To get through the narrower window of opportunity will require different behaviours and lot of creativity



We wanted to find out whether companies are genuinely feeling these challenges and whether or not they are driving them to innovate

- 40 technology orientated companies surveyed from UK, Italy, Switzerland, Japan, Germany, USA between June 04 & Sept 04

SwissCom mm02 Burnside telecom Ionix ERG S.p.A

Dupont Intel ReCellular GE Oil & Gas BG Italia

HP Motorola City Technology Ltd

Sony Diboride Conductors

Kodak Dow Chemical nCipher Plc 1 Ltd Edison

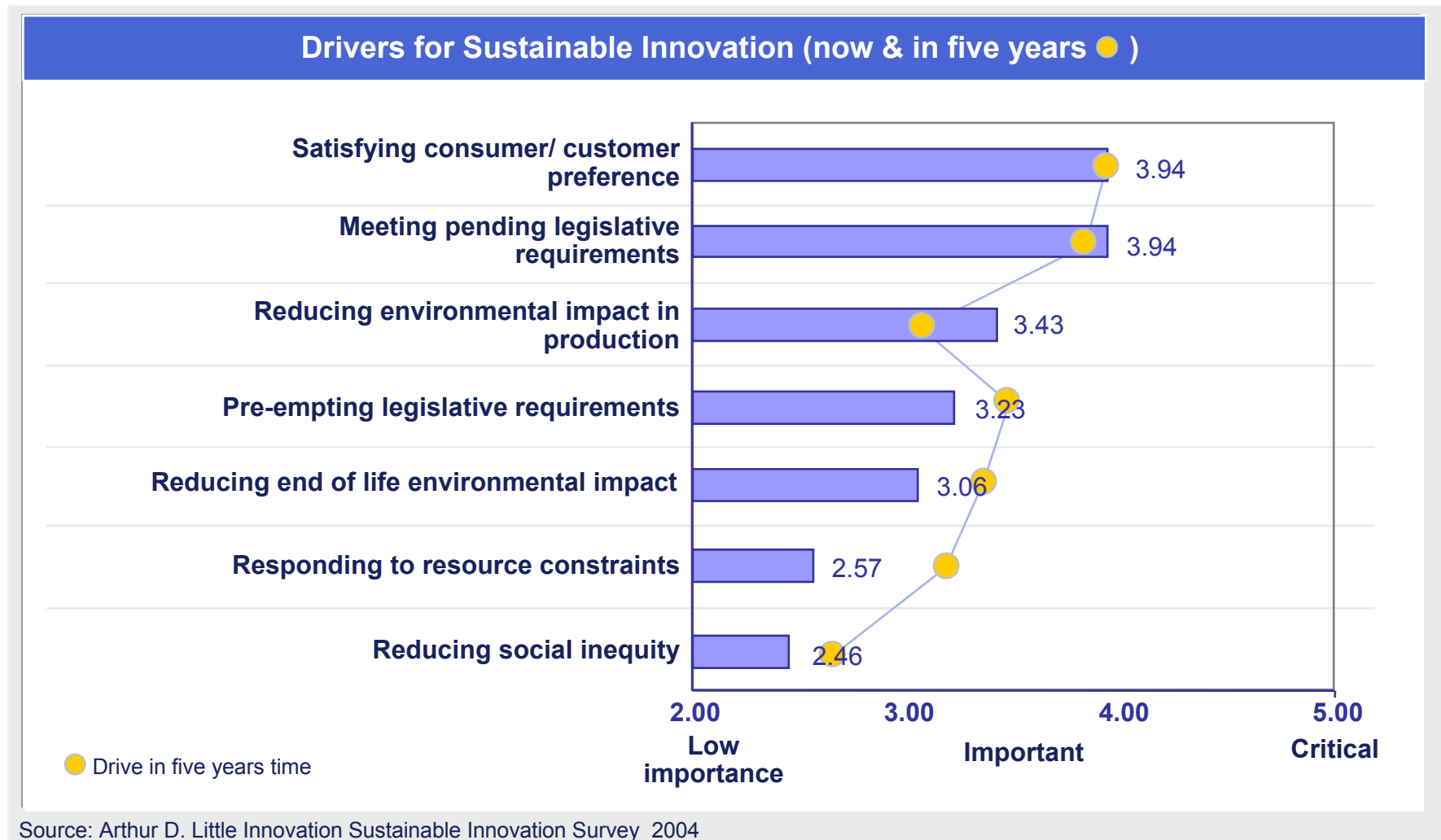
Proctor & Gamble Enel ABB Artimi Ltd

Schaffner Holding OI Superconductivity Renishaw plc

ST Microelectronics

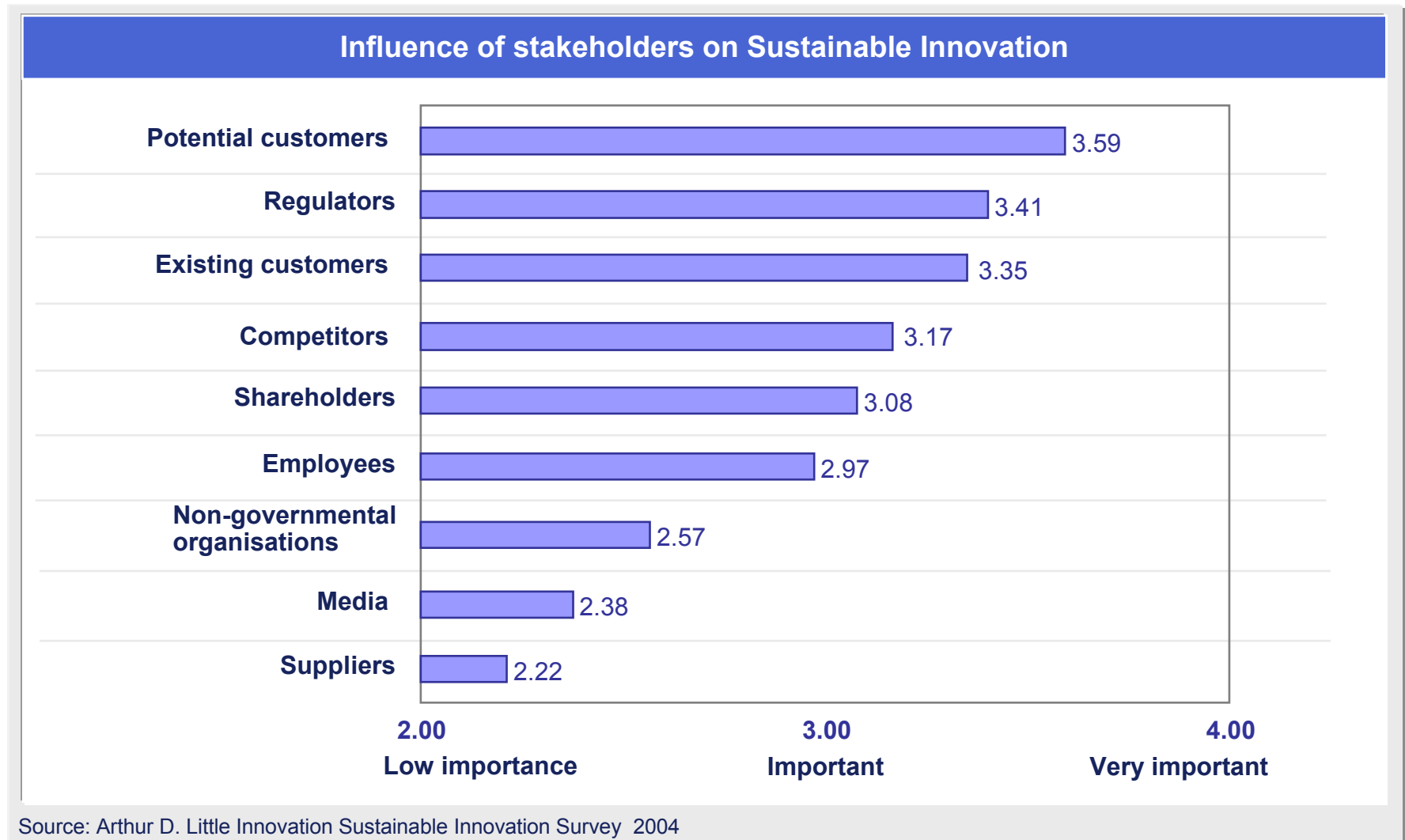


Customer requirements and pending legislation are the key drivers for sustainable innovation



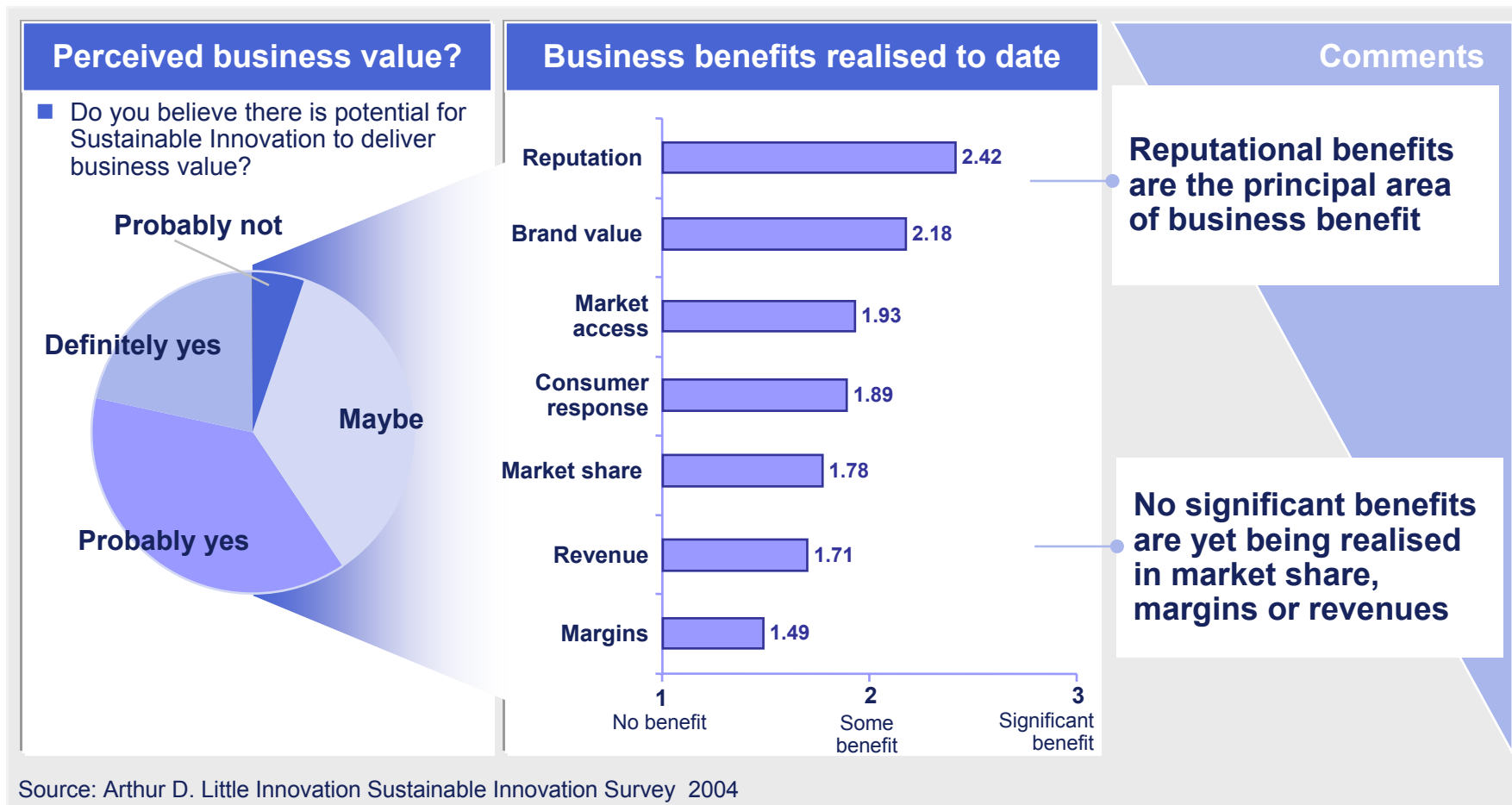


Winning new customers is also a key driver for sustainable innovation



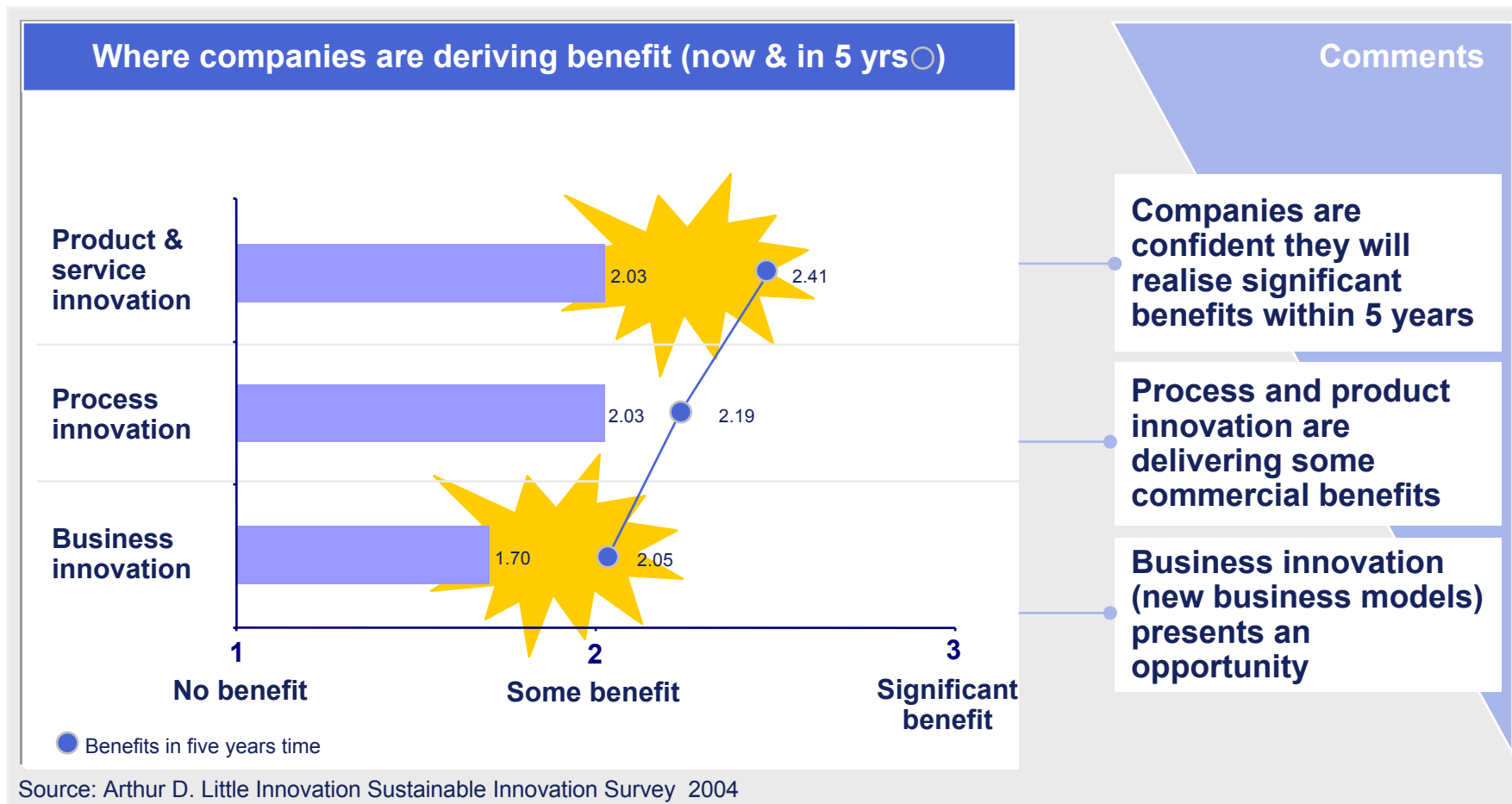


Companies believe there is real business value. They are starting to realise this value - to date much of this value has been intangible





Companies are not yet seeing big benefits. More significant benefit are expected in the next five years





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1

Innovation is critical to business performance

2

Sustainability + Innovation = business opportunity

2.1 Product & service opportunities

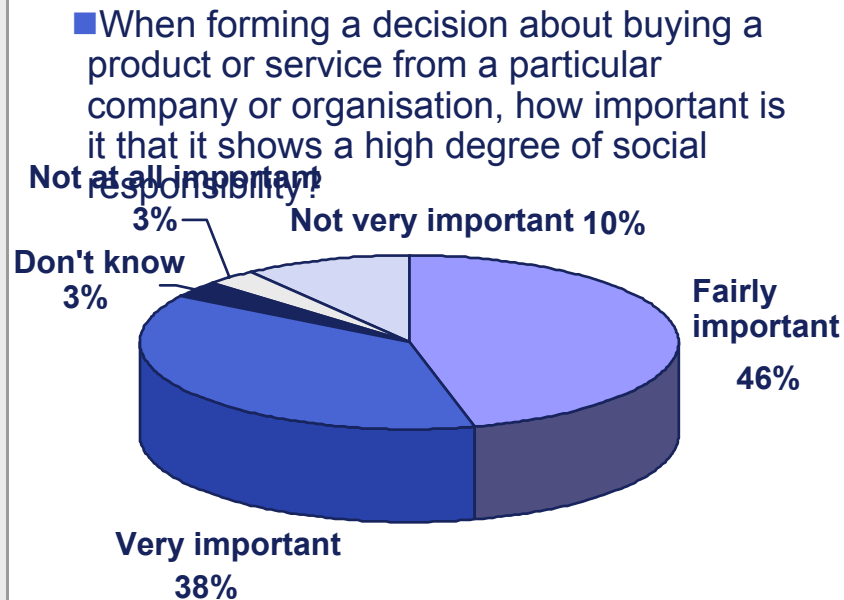
2.2 New market opportunities

3

Exploiting these opportunities requires creativity!

End consumers see sustainability issues as important but at the moment they aren't willing to pay

Ethics are important to consumers



Source: MORI 2003

..but they aren't willingness to pay

- Actual purchase behaviour often remains unaffected by ethical concerns
- Most consumers remain uninformed about ethical behaviour by firms and have limited knowledge about unethical behaviour
- Price, quality and value outweigh ethical criteria in consumer purchase behaviour

Source: Carrigan & Attalla, 2001



In the US, for example, environmental factors are at the bottom of the list of the most important criteria when buying a car

List of the 25 most important criteria when buying a car – US example

- | | |
|---------------------------------|------------------------------|
| 1. Reliability | 14. Warranty coverage |
| 2. Well made vehicle | 15. Dealer service |
| 3. Good engine/transmission | 16. Power and acceleration |
| 4. Value for money | 17. Interior roominess |
| 5. Durability (long lasting) | 18. Exterior styling |
| 6. Safety features | 19. Quietness |
| 7. Lease terms | 20. Future residual value |
| 8. Price/deal offered (lessees) | 21. Cost of service/repairs |
| 9. Price/deal offered (buyers) | 22. Interior styling |
| 10. Ride comfort | 23. Trade-in value (buyers) |
| 11. Ease of handling | 24. Trade-in-value (lessees) |
| 12. Monthly payment (lessees) | 25. Fuel economy |
| 13. Manufacturer's reputation | |

Source: 2000 Consumer Preferences by MARITZ Marketing Research



The greatest opportunities exist in providing technology solutions that help other companies to tackle sustainability issues





Source: Network Rail



Source: Network Rail

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Options **Clear**

Opportunities for ICT solutions are set to grow as demands for cost effective solutions to environmental issues grow

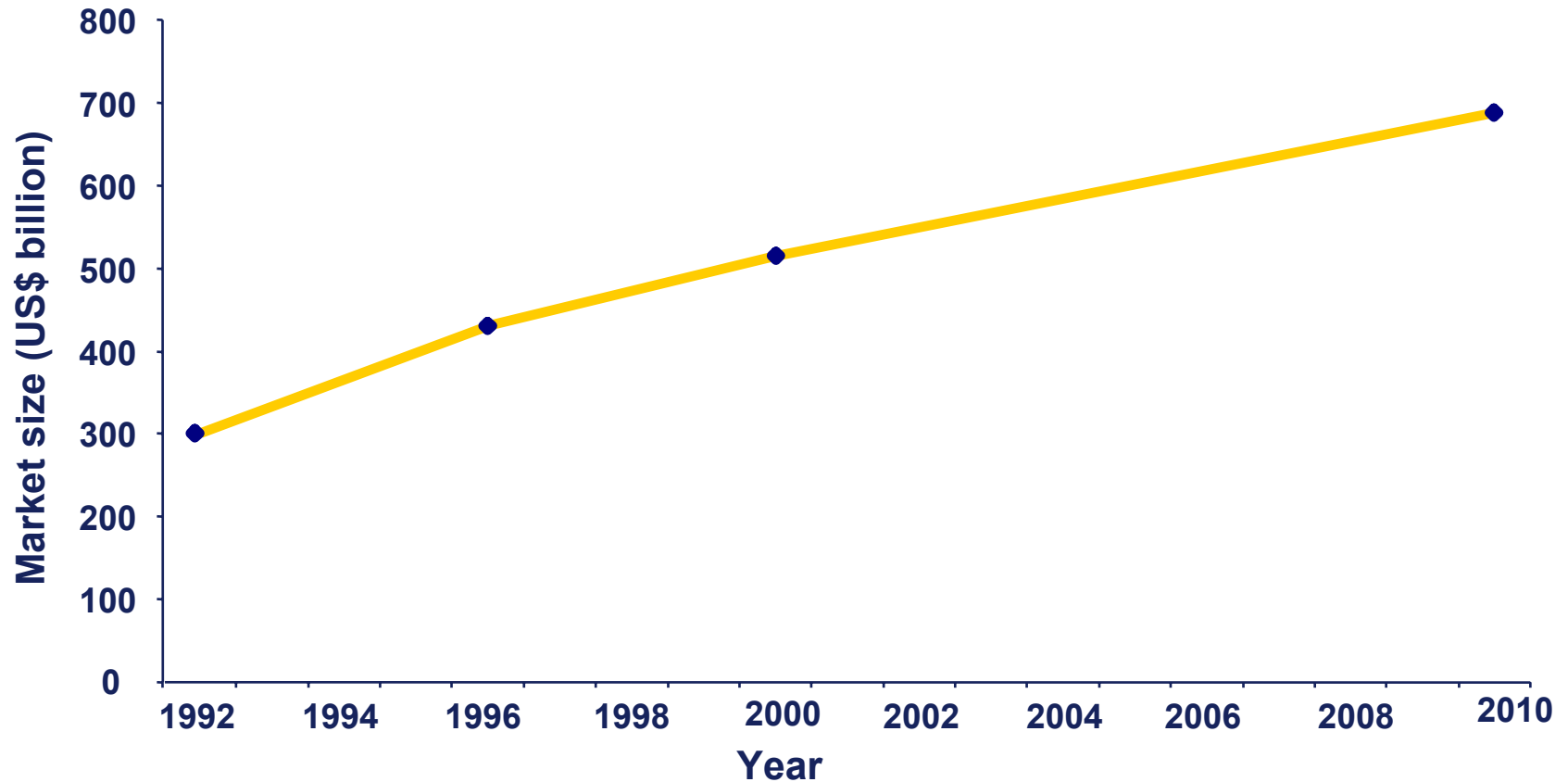
Wave Energy: Assumed profile for the total installed capacity of marine energy devices





Demands for environmental services are forecast to grow over the next five years

Growth in International Environmental Markets



Source: JEMU Environmental Markets Unit, 2002



BT Exact technologies have developed an innovative approach to help the elderly live longer at home!

Telecare

Market driver

- Old or 'frail' people want to remain living in their own homes for as long as possible
- 2026 – 30% of UK Population >60 years old

Product concept

- Sensors placed around the home monitor movement and the use of power and water.
- System learns about a person's lifestyle. If something goes wrong it raises alarm

Sustainability value

- Relief on NHS services & demand for beds
- Could save UK local authorities around £700 million a year if fully deployed
- Generate significant revenues for BT (c. >£100m)





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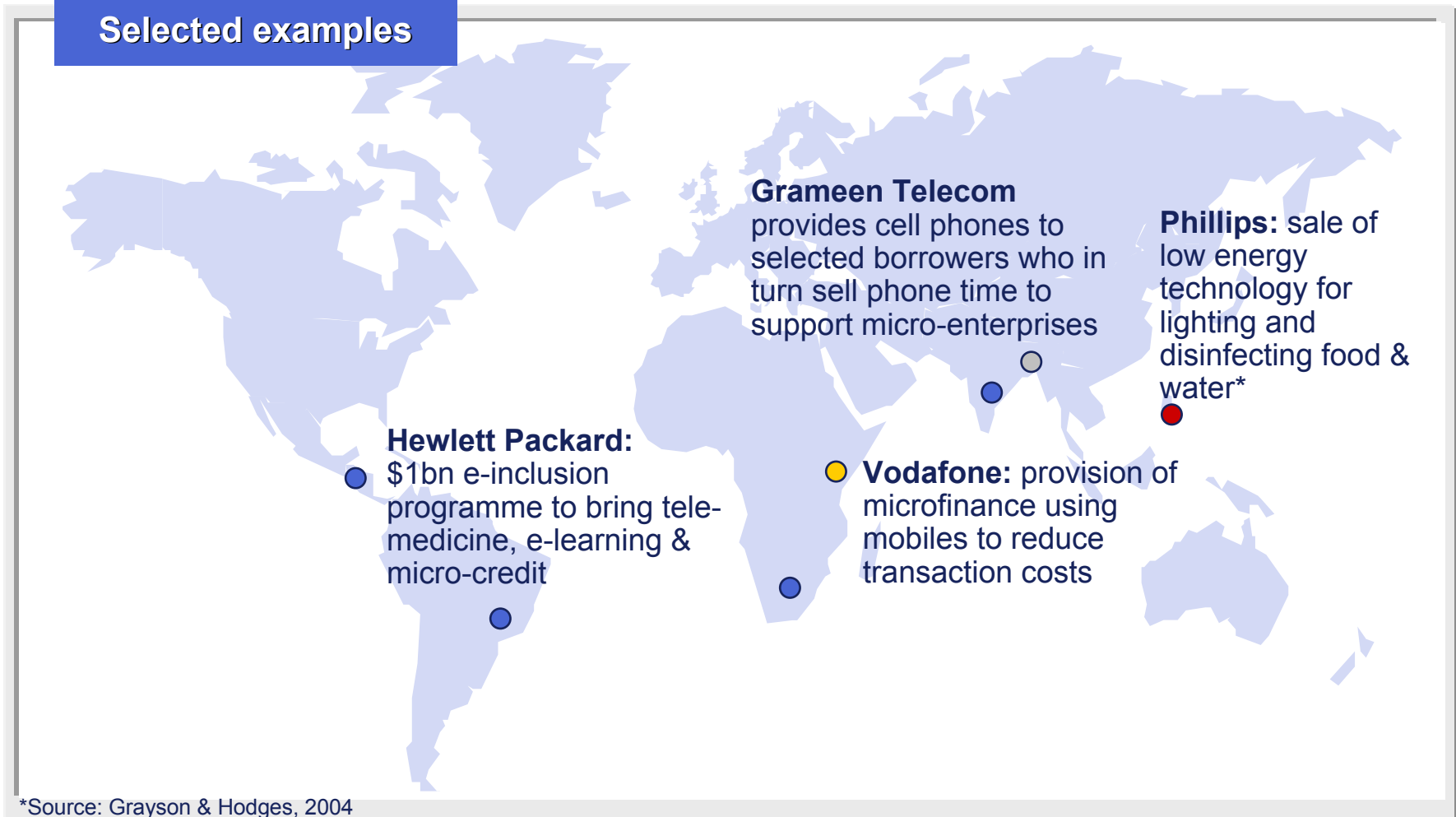


The four billion people at the bottom of the “income pyramid” offer a tremendous market opportunity



A number of leading technology companies are exploring ways in which they can penetrate this market

Selected examples





Characterising this market is extremely difficult. However, the purchasing power in countries such as India is growing....

Ingreso per cápita (US\$)



Consumo per cápita (US\$)



Fuente: Euromonitor; análisis Arthur D. Little

Consumo per cápita por sector (US\$)

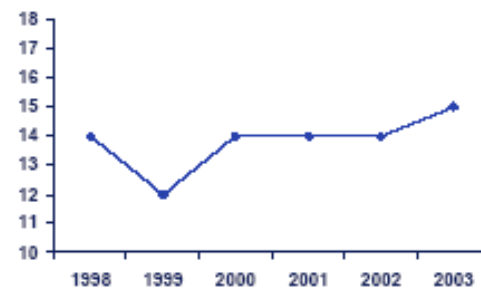
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Ropa y calzado



Otros productos y servicios



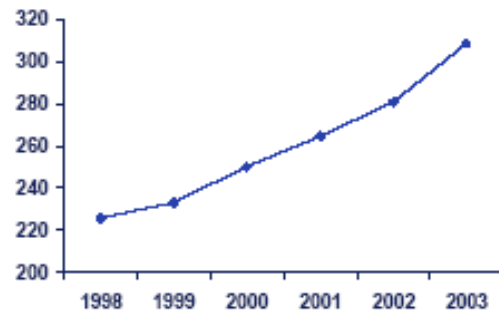
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Apologies for the Spanish – English versions are available on request

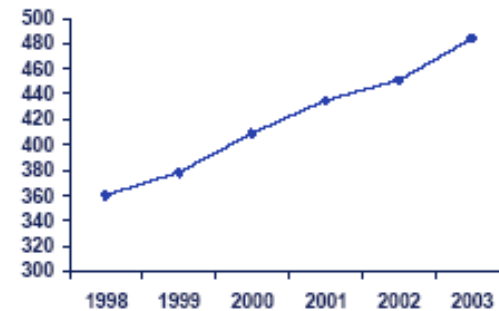


...and in China....

Ingreso per cápita (US\$)



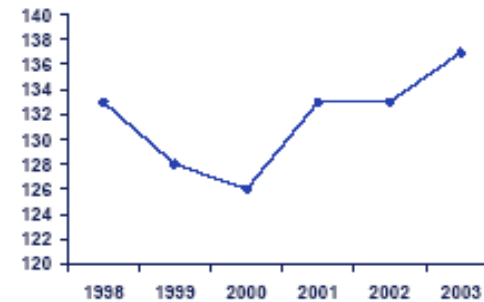
Consumo per cápita (US\$)



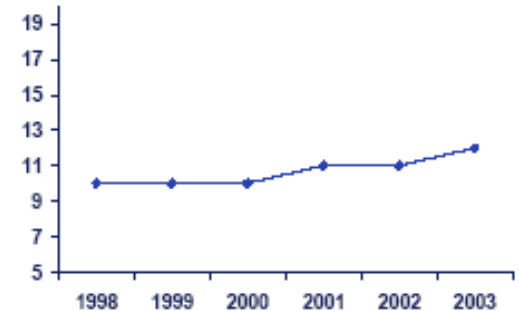
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Consumo per cápita por sector (US\$)

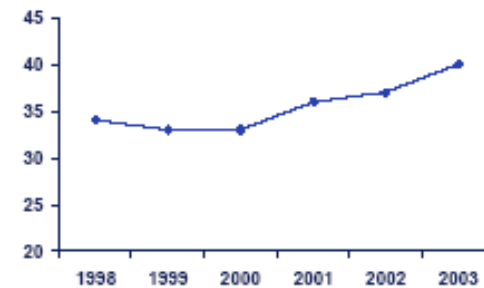
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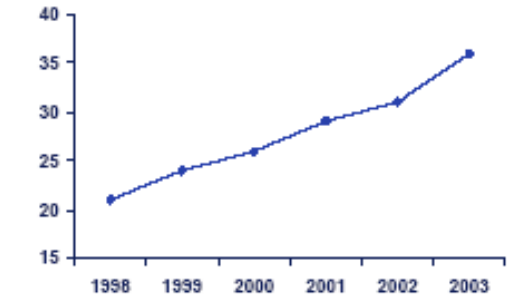
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Otros productos y servicios

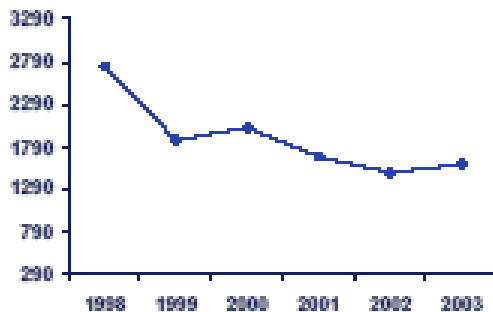


Fuente: Euromonitor; análisis Arthur D. Little

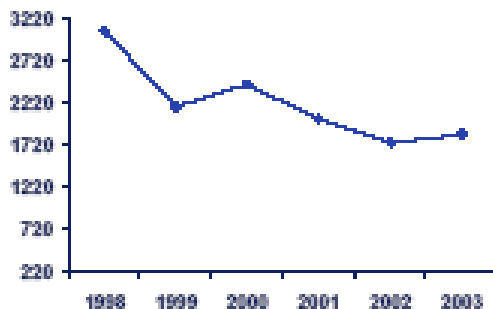


...but recognising that these patterns are not consistent in all developing economies (e.g. Brazil, which is characteristic of South America at present)

Ingreso per cápita (US\$)



Consumo per cápita (US\$)



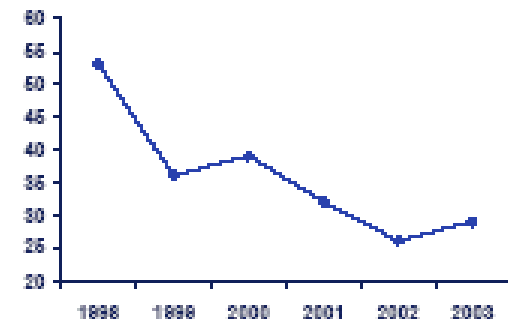
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Consumo per cápita por sector (US\$)

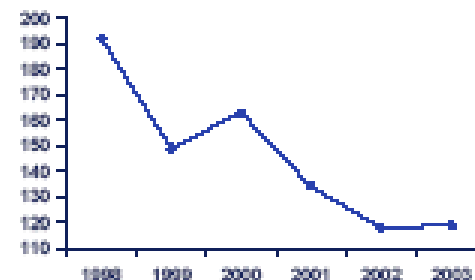
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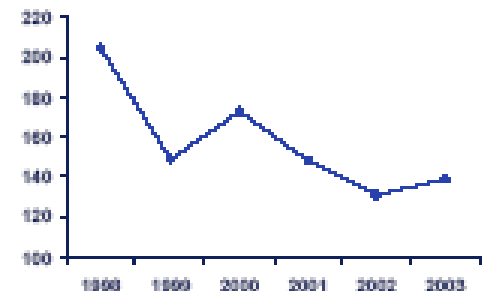
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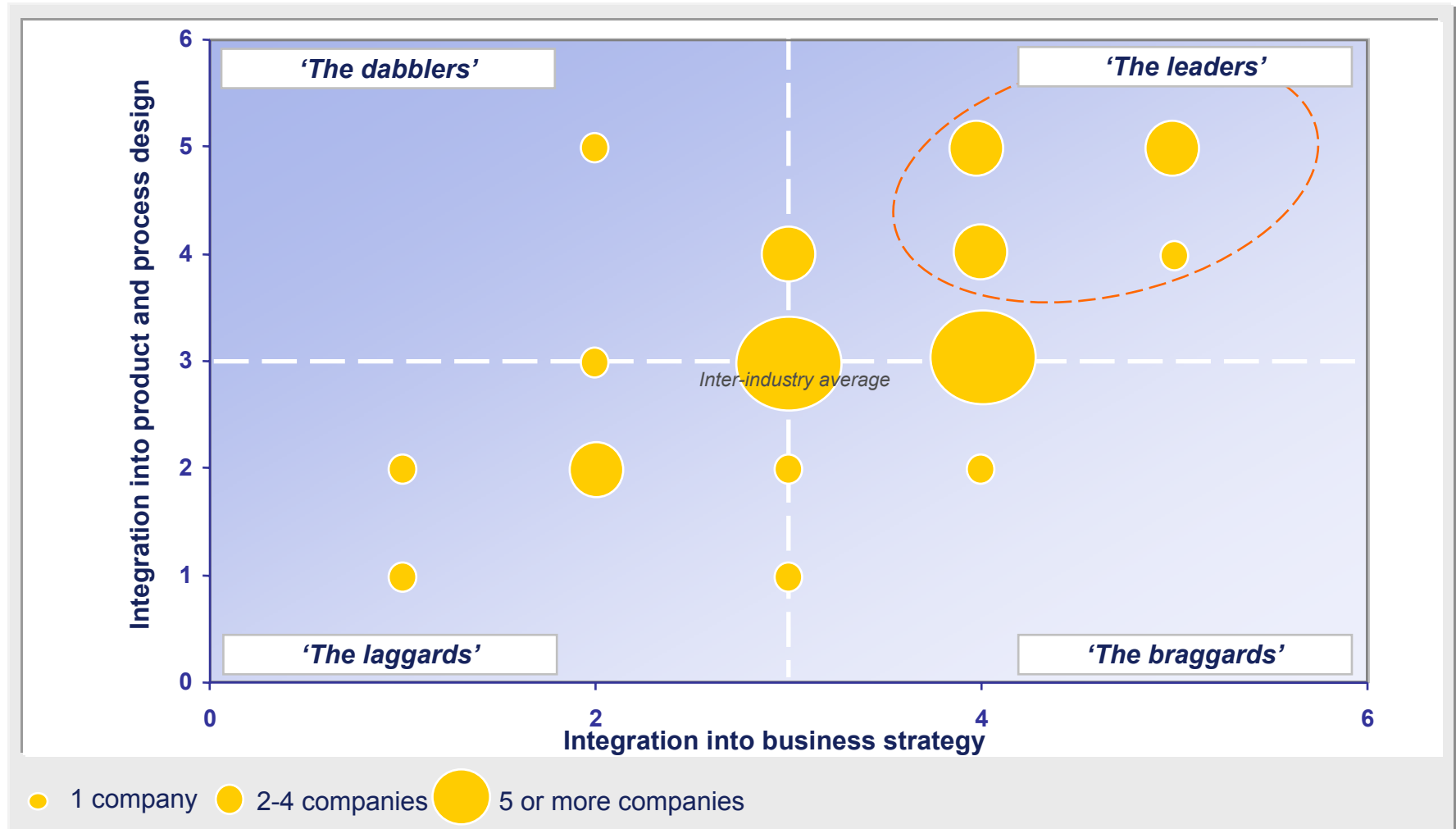


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3	Exploiting these opportunities requires creativity!

Exploiting these opportunities requires creativity!



Companies are still in the early stages of fully integrating sustainability into their business & product and process design activities

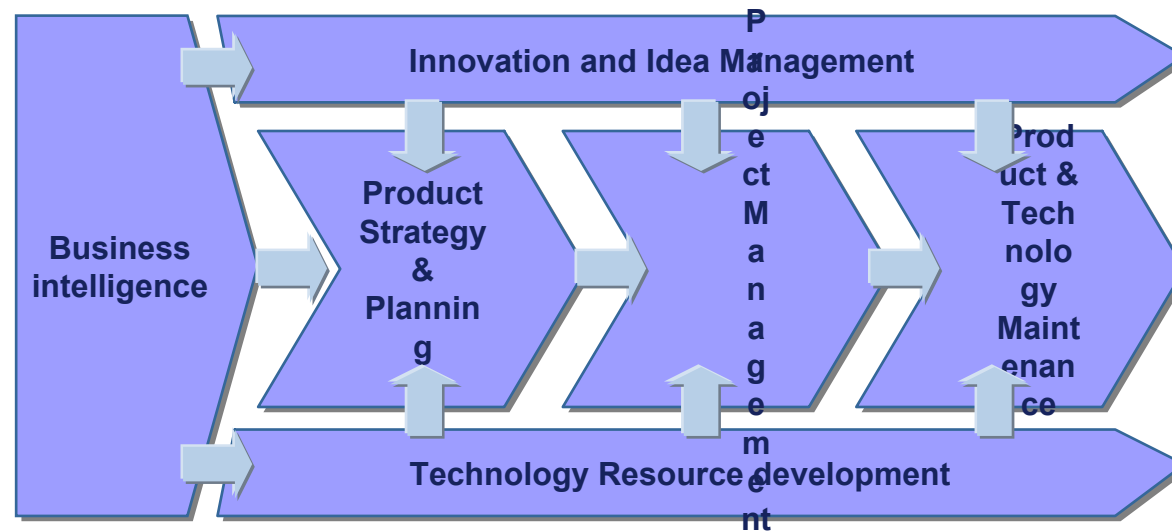


Exploiting these opportunities requires creativity!



The priority should be to integrate Sustainability thinking into the Innovation process

Integrating Sustainability into the Innovation Process

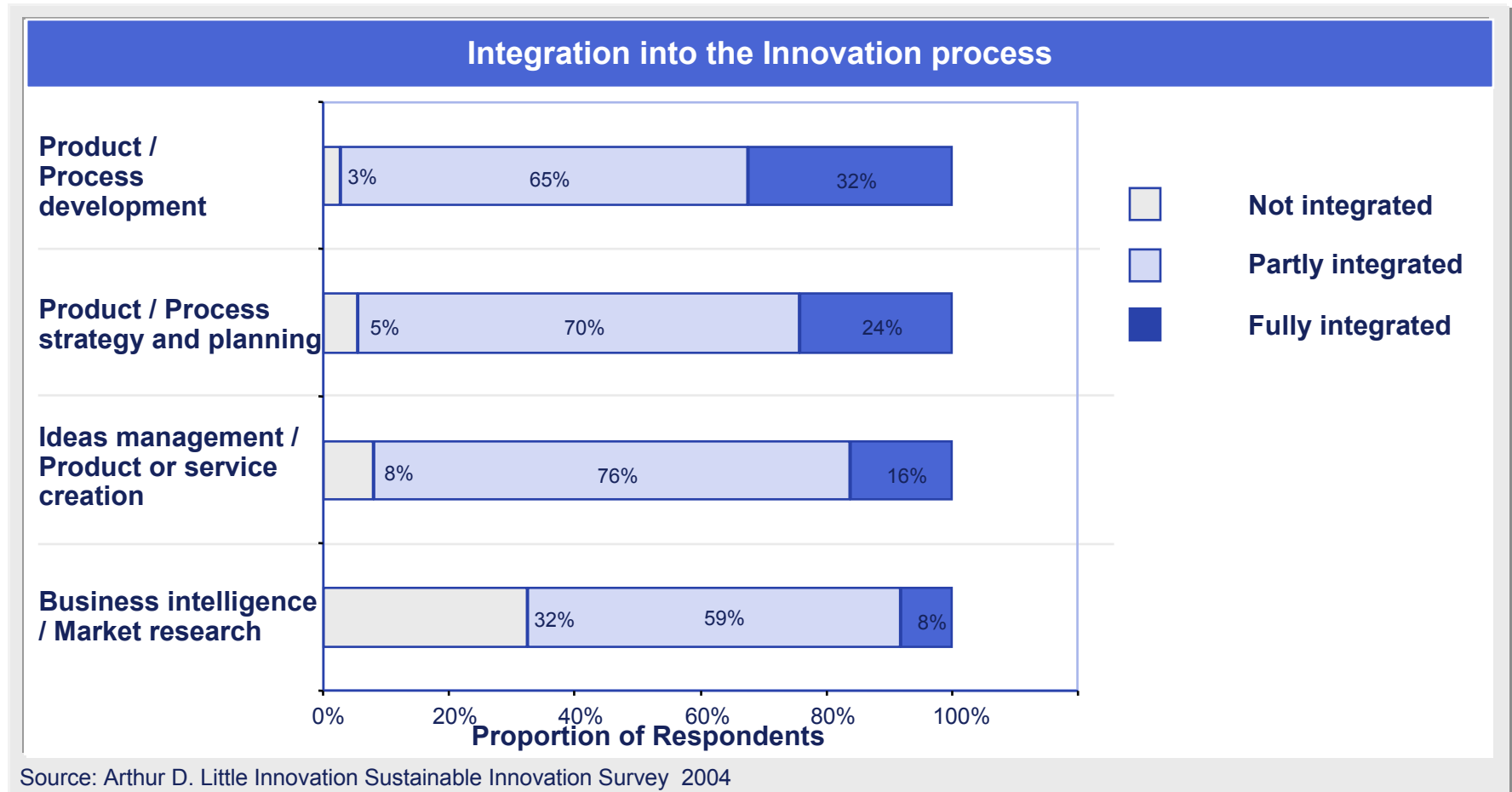


An Innovation process

Exploiting these opportunities requires creativity!



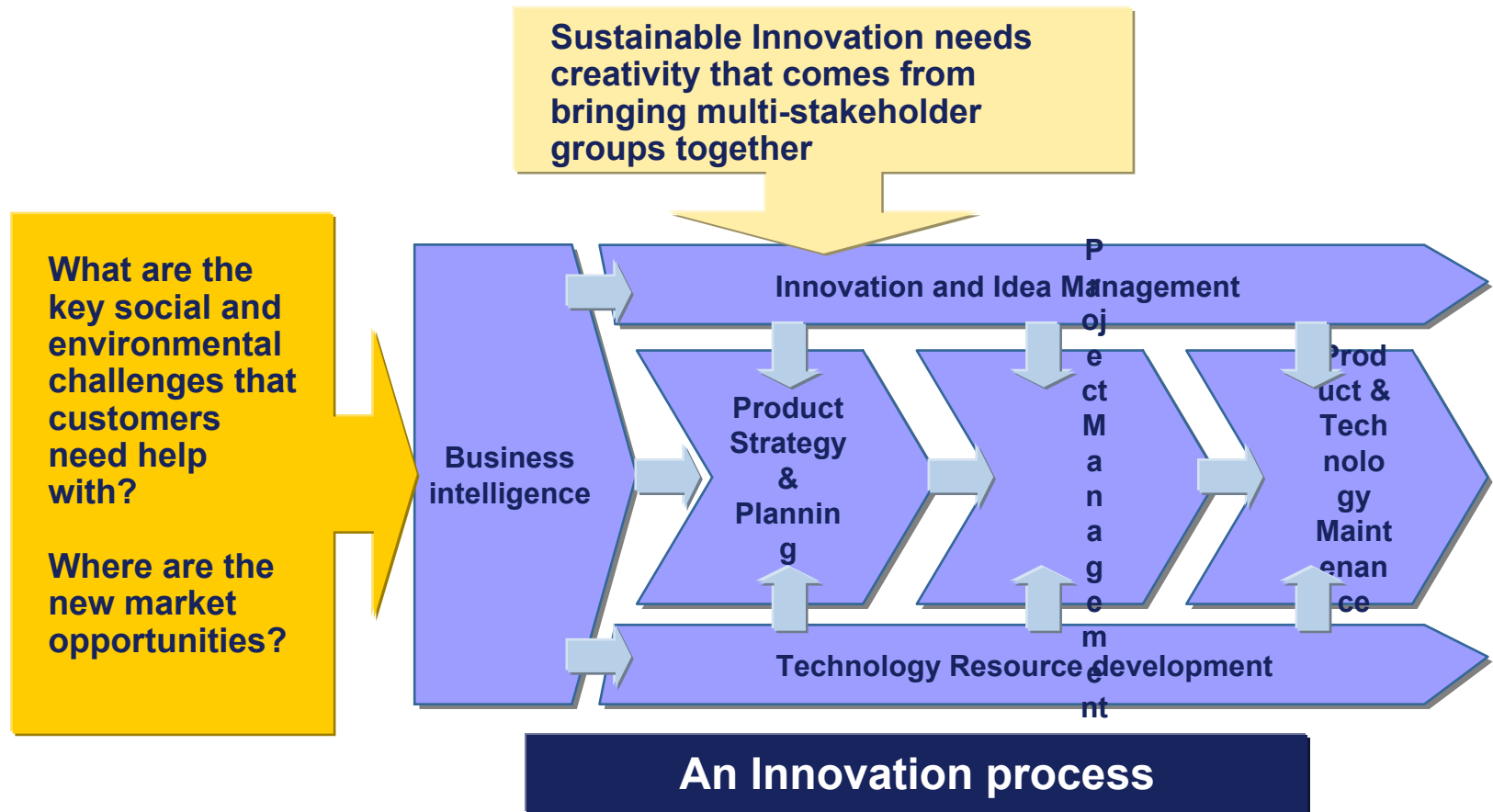
Most companies appear to be particularly weak at integrating sustainability into market research / business intelligence and ideas management





So we need to be better at understanding potential needs and coming up with the right ideas!

Integrating Sustainability into the Innovation Process





Building an innovative organisation involves ‘soft’ factors as much as ‘hard’

A fallacy

“...innovation management means exploiting new technology effectively”

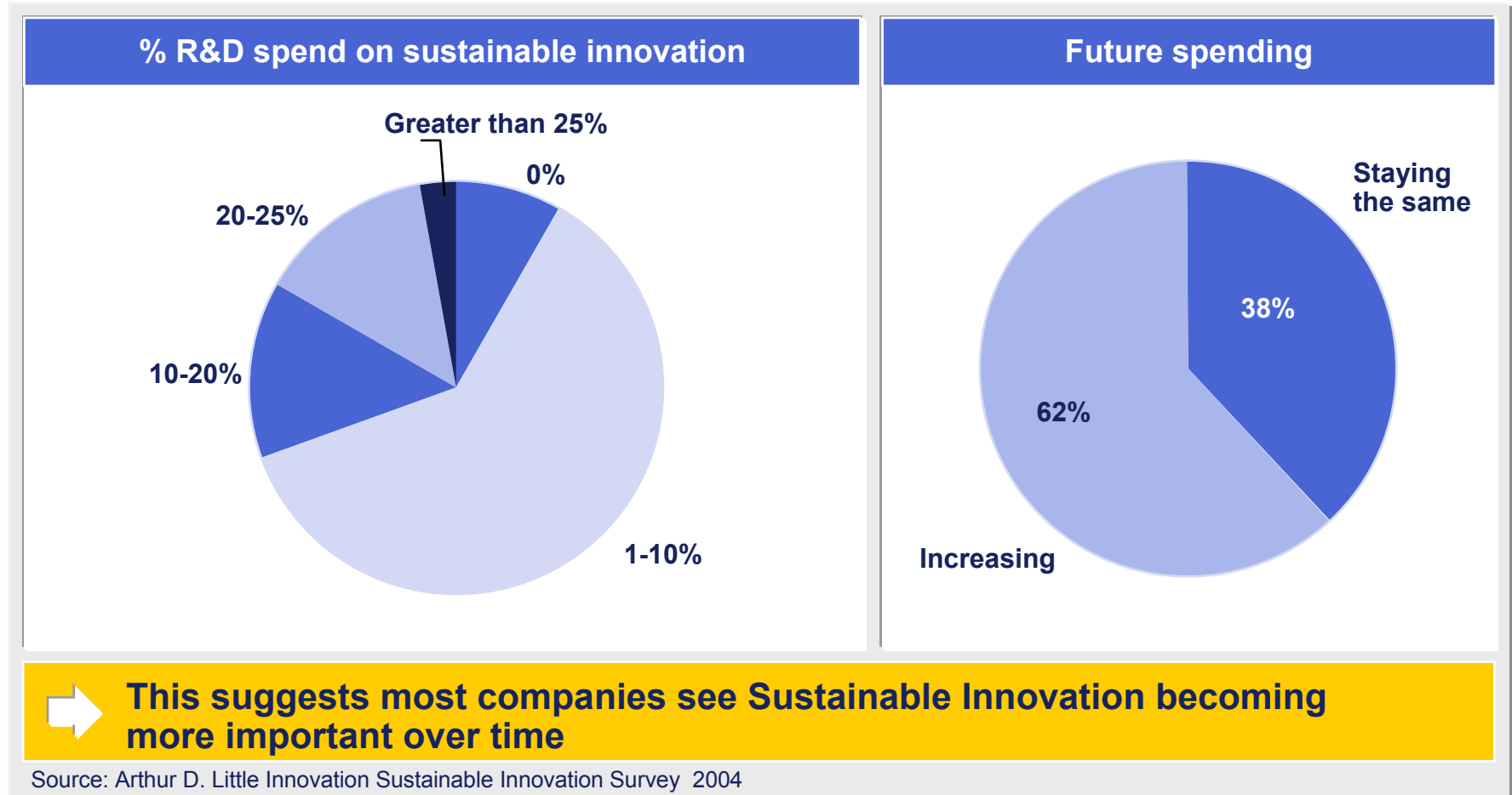
... and the reality

“...innovation management is not, primarily, about technology. It is about people, culture and communication.”

Exploiting these opportunities requires creativity!



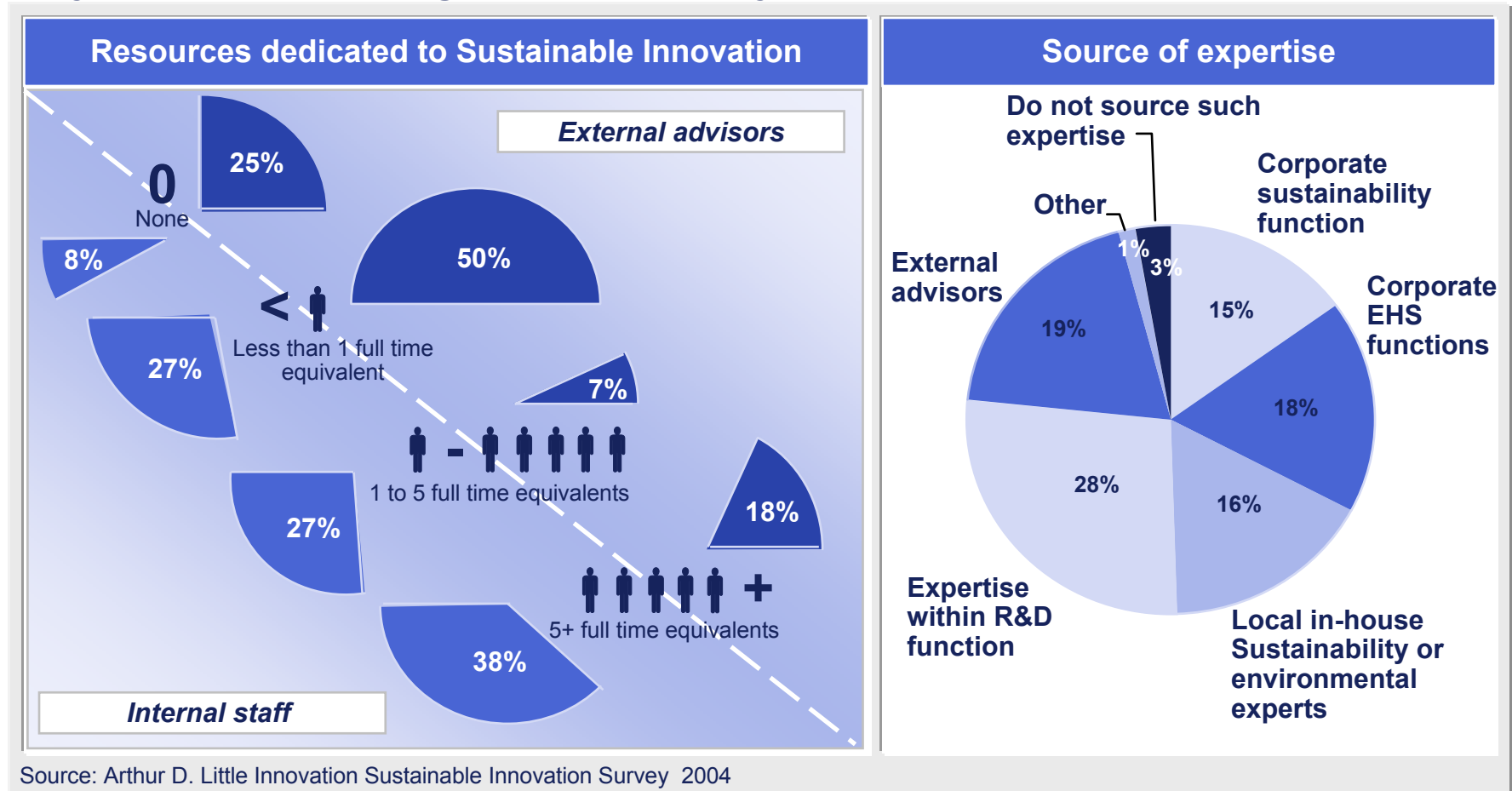
R&D on spending on sustainable innovation is modest (<10%) but nearly two-thirds believe this will increase in the future



Exploiting these opportunities requires creativity!



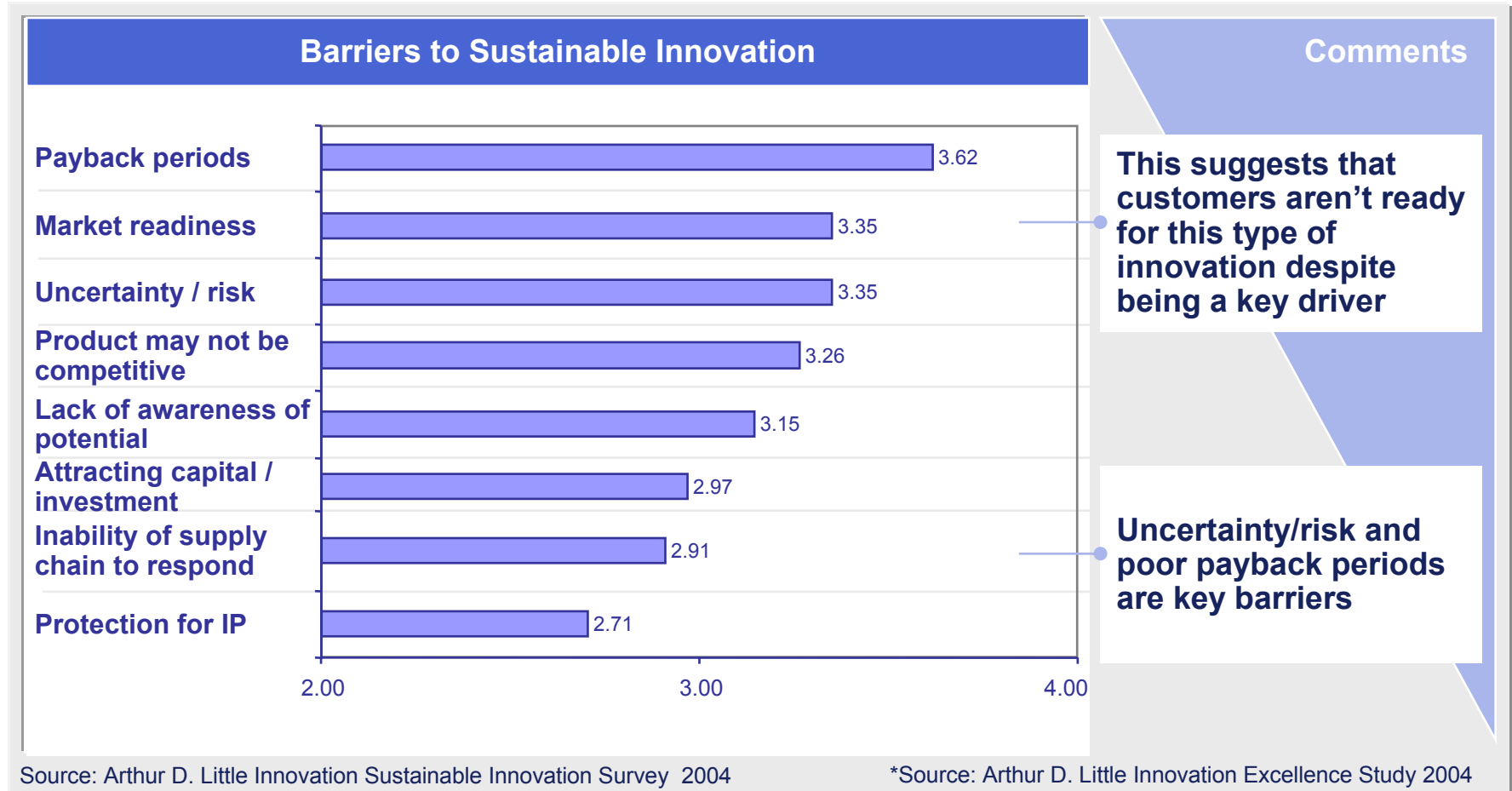
Almost 20% of companies are drawing on external advisors, as they grapple with the strategic implications of environmental and social drivers, believing they lack the knowledge base internally



Exploiting these opportunities requires creativity!



Age old problems such as payback periods and market readiness are holding companies back





As are further challenges relating to developing new business models and better valuation methodologies

Additional barriers cited by companies

- No proven business models for multinationals in poorest countries.
- Other company priorities
 - Focus on using capital to grow ‘more of the same’ in other global markets
 - Financing new projects at the bottom of a business cycle
- Low cost of raw materials continues to drive use of virgin materials rather than alternatives
- High level of internal and external skepticism & business development leaders are generally myopic and not willing to innovate
- Difficulties in quantifying the value of “sustainable innovation” on business performance



Companies are not yet exploiting the full potential of ‘*sustainable innovation*’

Summary of findings

- “It’s the customer, stupid!” – **customers and regulators** are the key drivers
- Emphasis will shift from **reduction of process impacts** towards **development of new products and services**
- **Business innovation** will also be a key area in the future
- Reputation and brand were the early drivers – but in future the **market** will drive us
- Current **valuation and risk assessment** models limit take-up
- ***Creativity is key – how can companies harness their new stakeholder relationships to deliver growth and profitability?***



Arthur D. Little Limited

Justin Keeble
Manager

Phone: +44 (0)1223 392398
E-mail: keeble.justin@adlittle.com

Arthur D. Little Limited
Science Park, Milton Road
Cambridge, CB4 0XL
United Kingdom

Phone +44 (0)1223 392090
Fax +44 (0)1223 420021
www.adlittle.com

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Arthur D. Little Limited

David Lyon
Manager

Phone: +44 (0)1223 392421
E-mail: lyon.david@adlittle.com

Arthur D. Little Limited
Science Park, Milton Road
Cambridge, CB4 0XL
United Kingdom

Phone +44 (0)1223 392090
Fax +44 (0)1223 420021
www.adlittle.com