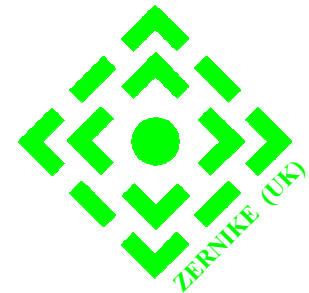


OMPI AGENCIA MinCyT
Development of Intellectual capital in Argentina

INAUGURAL DISCUSSION

Intellectual Capital and the Finance Market

Bob Hodgson
Zernike (UK) Limited



Buenos Aires
July 2008



Structure and purpose

Structure

- Place topic in a broad developmental context

- Discuss some of the key challenges relating to:
 - IP and its characteristics
 - Universities and the supply side
 - Companies and the demand side
 - Finance and its concerns and contribution
 - New technology firms and finance specifically

- End with some key lessons learned from experience

Messenger: Zernike model



PRIVATE – with partnership culture

International integrated technology entrepreneurship

- Specialist property
- Seed and start-up funds
- Business networks and globalisation
- Consultancy and positioning

BIOLOGICAL CULTURE

Divide to grow – combine for value



IP its nature and challenges

- A legal monopoly to encourage invention
- Novel Useful Specific
- Explicit knowledge, but usually backed by tacit know how
- Complex and specialist – so costly and uncertain

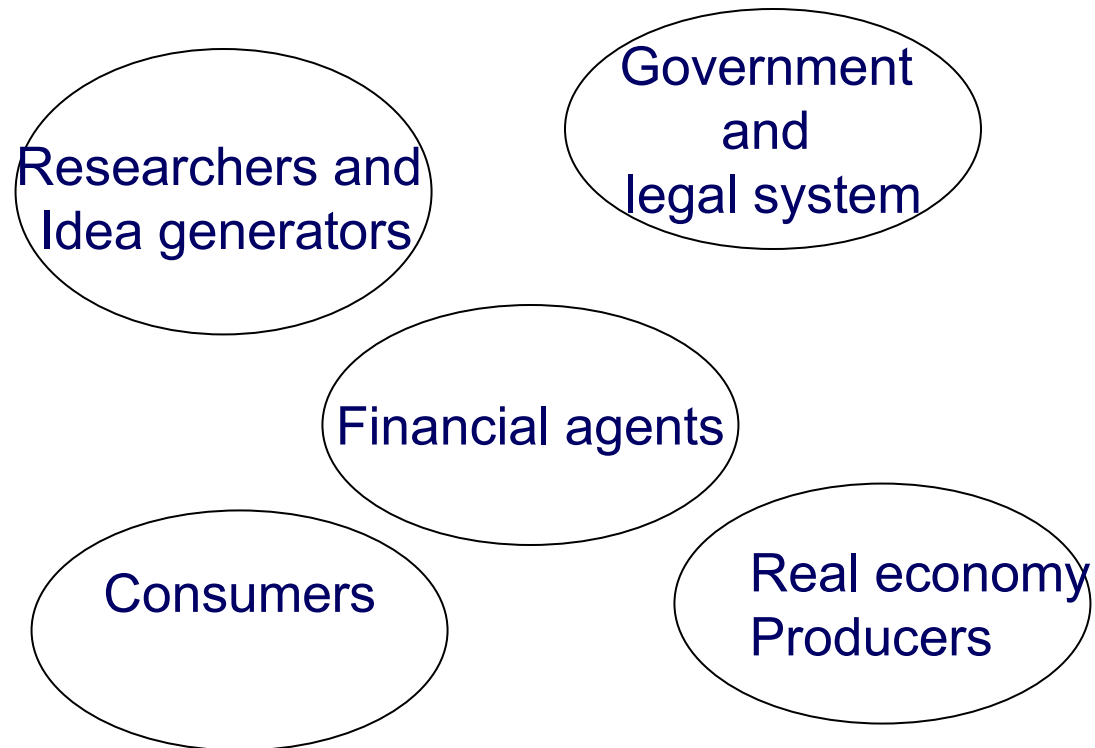


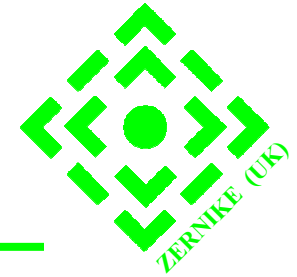
Some key aspects

- Explicit v Tacit
- Legal Asset v Value Generation
- Creation v Defence
- Route choice to value
- Appraisal and valuation

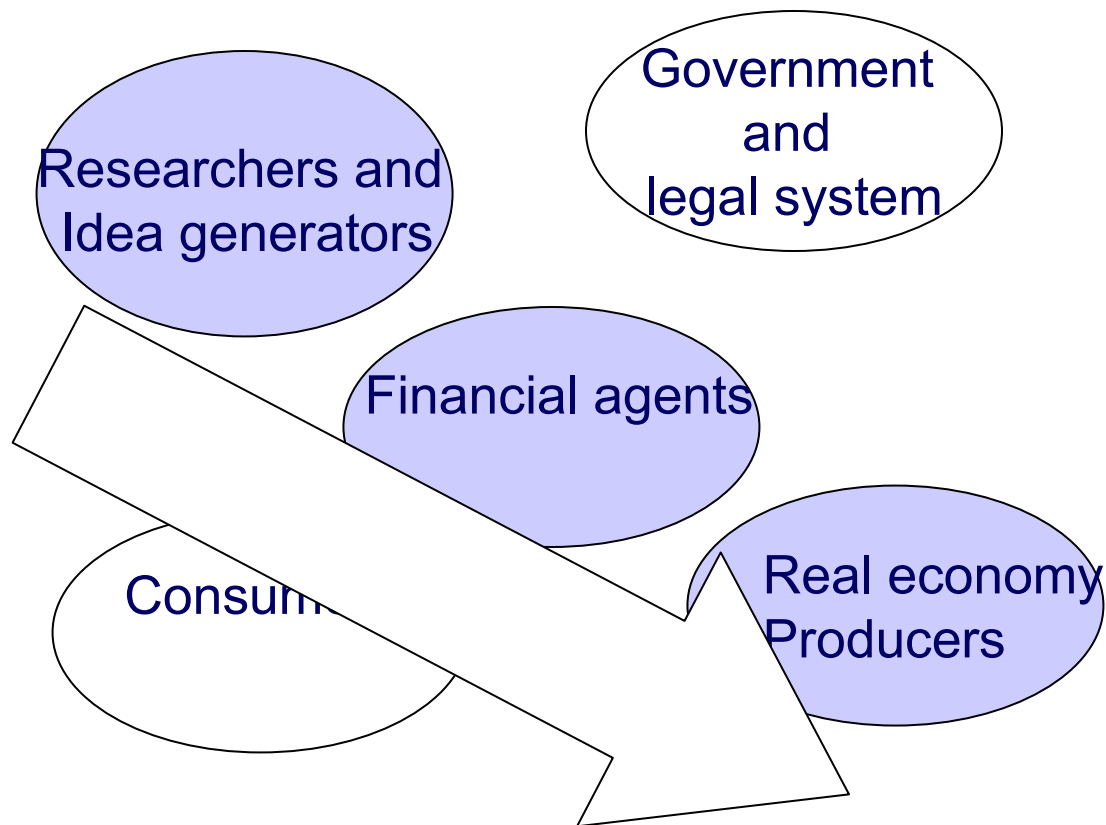


Perspectives of five main actors





Perspectives of five main actors





Government: enabling and facilitating

- Legal aspects – framing and applying Yes
- Investor in knowledge generation Yes
- The economy stupid Yes
- Buyer and user Yes
- Commercialising agent NO



Consumers: willing buyers?

- Understanding and acceptance
 - segmented drugs market

- Fashion and valuation
 - establishing and sustaining the brand

- Culture ethics and risk
 - genetic engineering and acceptance



Researchers and knowledge generators

- Legitimacy: ask the question right
 - use and benefit not exploitation

- Processes: develop a professional network
 - scale and specialism

- Institute incentives
 - equity and predictability

- Develop the commitment
 - Bayh Dole in USA
 - Christine Clements in Norway
 - CONNECT programme from UC San Diego
 - University of Manchester



University of Cambridge – Ivory Tower?



- A research based university
- Excellence in culture
- Started in 13th century
- Successful and adaptive – yes
- Slim and agile – perhaps not!

Cambridge University roll call



Microsoft



Glaxo



Unilever

**SmithKline
Beecham**

SEIKO



HITACHI



Aventis > Hoechst

Marconi



Research agencies: interests and execution

The stage of process	Level of interest	Engagement in execution
The IP idea	+++++	+++++
The IP asset	++++0	+++00
The IP application	++000	++000
The IP profit	++++0	00000



Building the bridge

- Start with the protocol
 - Helpful, even necessary but not sufficient

- Work with all the tools and talents
 - VTTs
 - Identifiers – scouts and ferrets
 - Interpreters and translators

- Look early for the route choice
 - Alliances
 - Licencing
 - New business creation

- Ensure a two way flow

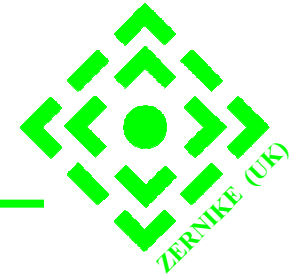
Differentiation and focus



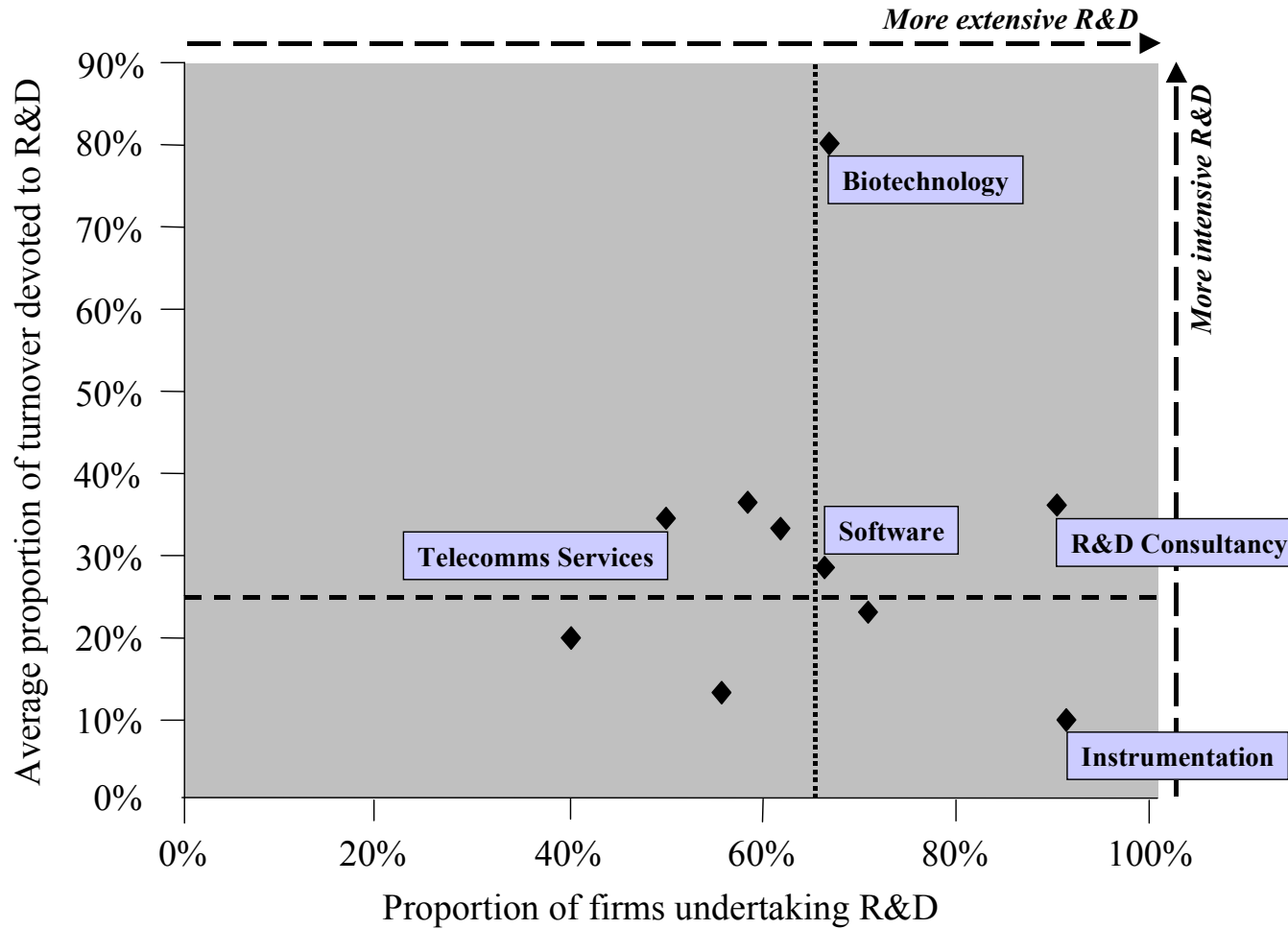
One size does not fit all

- Market dynamic – innovate and die v innovate or die
- Technology imperative – bio compared to ICT
- Purchasing dynamic – security and health

BUT SUSTAINED SUPPORT IS ESSENTIAL



Profit and differential research intensity





Real Economy: innovation engines

- ARM – Advanced RISC Machines
 - IP generator
 - income from Licences and Royalties
 - market cap - billions

- Generics Group Plc – technology solutions provider
 - IP accumulator
 - and commercialiser – spinning out companies
 - massive P/E ratio on flotation – hope value

- Supported by specialist service providers

Sources of innovative technologies

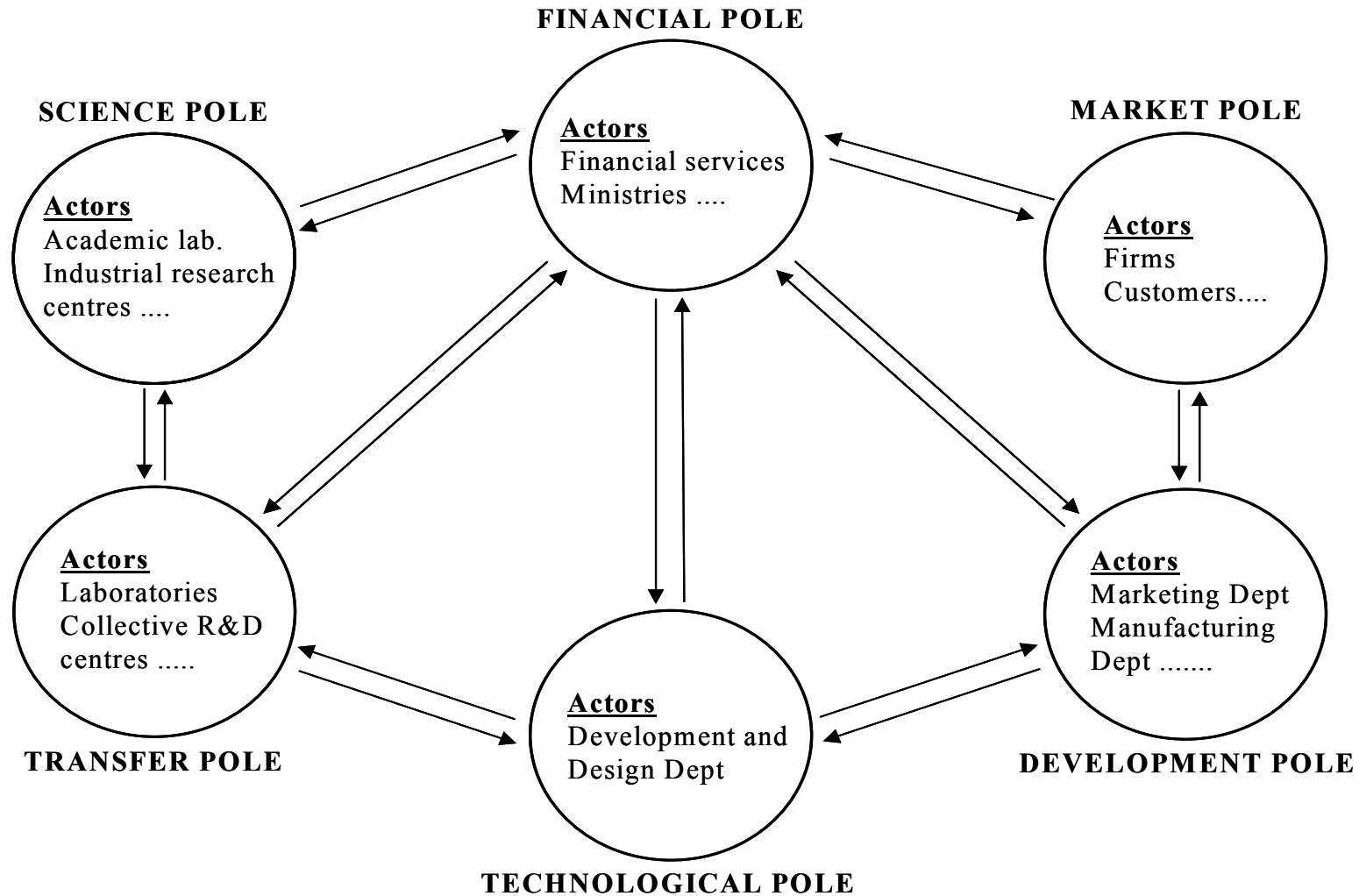


Where do firms look for technology and innovation?

- Customers
- Capital equipment suppliers
- Competitors
- Shows and exhibitions
- Peer professionals
- Specialist media
- .
- .
- .
- Public agencies
- Universities



Typical model: Callon et al

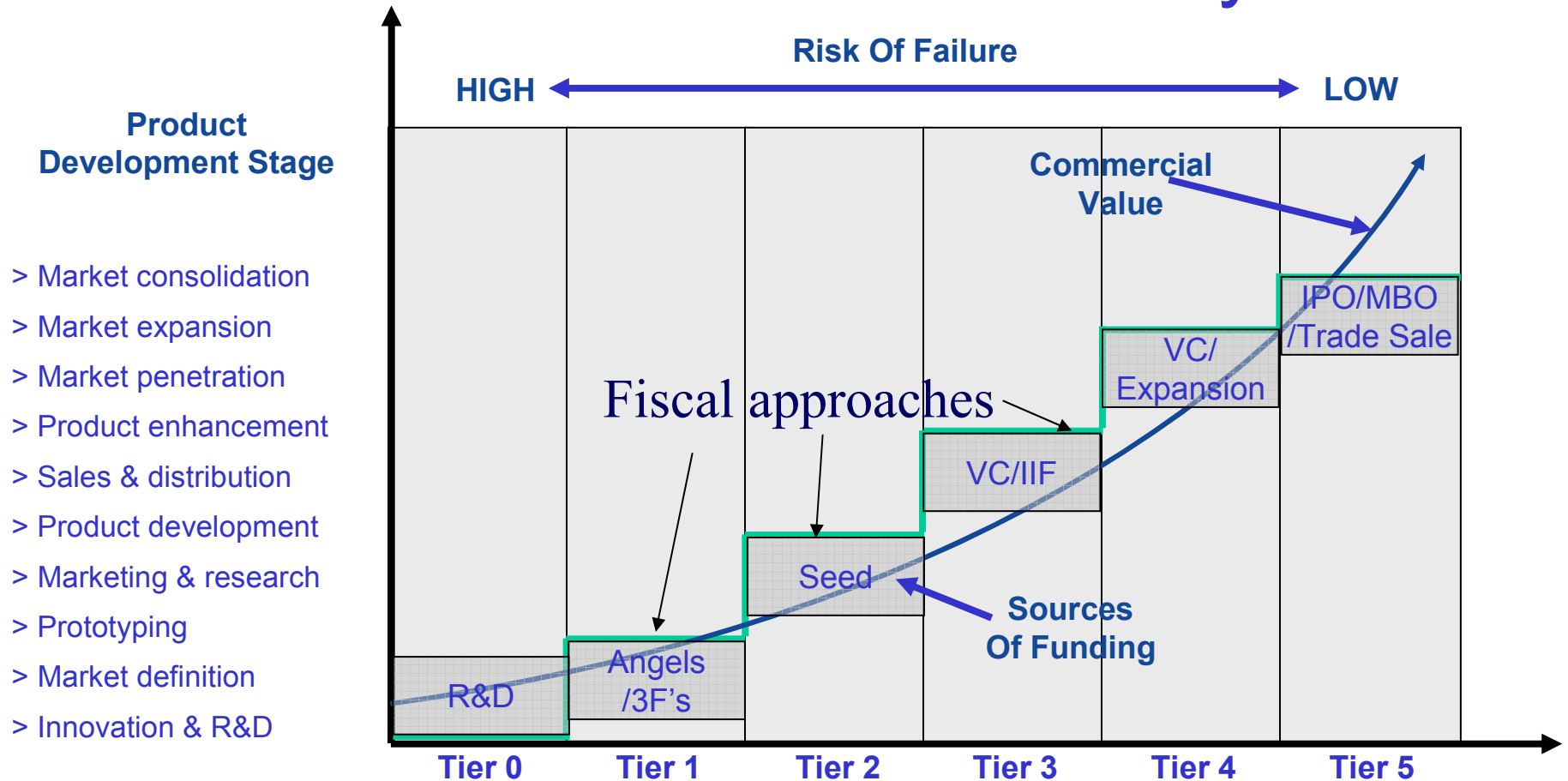




Risks: real and perceived

- The benefit of collateral – tangible and tradable
- IP – an asset but of what value?
- Austin Texas – investment challenge!
- But the risks are still very real
 - technical
 - market/commercial
 - personnel
 - financial

The Commercialisation Cycle



Business Development Tiers

Tiers 0/1 - Pre-incubation

- Direction
- Collaboration
- Guidance
- Resources etc
- Pre-Seed funding

Tier 2 - Incubation

- Mentoring
- Seed funding
- Contacts
- Consulting
- Clients

Tier 3 - Post-incubation

- Funding
- Structuring
- Relationships etc

Tiers 4/5 - Commercial Maturity



Challenges in commercialisation: hypothesis 1

We have great S&T and ideas for new businesses

BUT

There is no money to take them forward

SO

Lets build a venture capital industry

Challenges in commercialisation: hypothesis 2



We have lots of money which is prepared to invest in
new businesses

BUT

There are not enough good ideas coming forward from
the knowledge base

SO

Lets change the orientation of the science base

Challenges in commercialisation: hypothesis 3



We have great S&T and lots of investment money

BUT

The two communities have opposite perspectives and
cannot talk to each other

SO

Lets build a shared vision and learn a common
language



Valuation: the unresolved challenge

- Easy – when there is a revenue stream
- But even then worries about sustainability
- Before the revenue stream it is much more uncertain
- And is characterised by information asymmetries
 - inventor knows the technology
 - entrepreneur knows the market
 - investor needs to independently evaluate both
 - and then to reach a deal!



Some additional limitations

- IP system is not always applicable
 - advanced engineering around F1 racing
 - accumulated tacit knowledge

- Commercial perspectives can cripple business
 - Pro fit and its American licensee
 - defence costs can overwhelm revenues
 - all but a few USA universities spend more on IP than they receive



Finally: some key messages

- Build a local consensus for legitimacy and transactions
 - more than engineering optimisation

- Get specialist help
 - develop specialist skill sets

- Provide smart incentives
 - for all who contribute not just the few

- Encourage reinvestment
 - it is where the competitive future lies



Thank You

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