

The Role of IP and Financial Intermediaries in Early-Stage Financing

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**Small and Medium-Sized Enterprises Division
World Intellectual Property Organization**

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Easy to read, practical, business friendly guides



Translations and/or adaptation projects

Countries are encouraged to translate and or adapt the guides to their local language (s) and their laws and procedures.

Over 40 countries have completed such translations and adaptations. Around 20 more have signed agreements and are in the process of doing so.

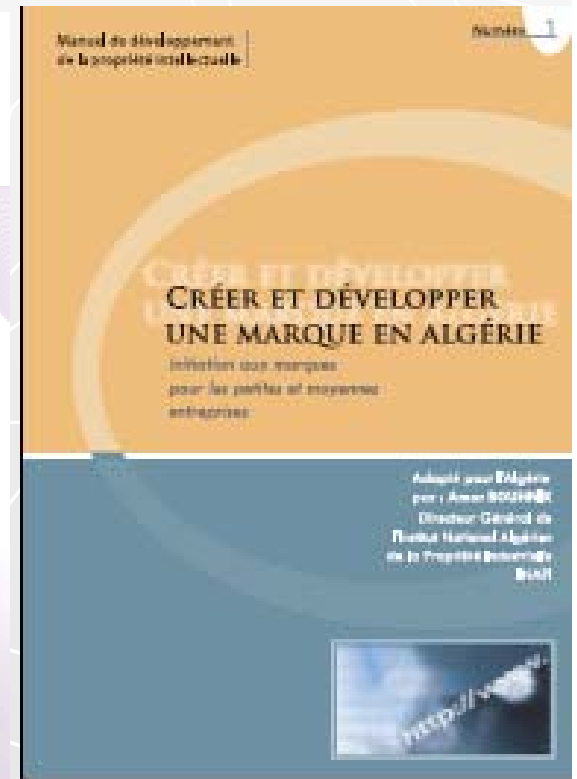


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mozambique



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SMALL AND MEDIUM-SIZED ENTERPRISES

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The Most Advanced E-learning Content
on Intellectual Property for your Business

- IP PANORAMA was developed jointly by the Korean Intellectual Property Office (KIPO), the Korea Invention Promotion Association (KIPA), and the World Intellectual Property Organization (WIPO) under a project entitled, 'The Joint Development of E-learning Content' from 2004 to 2007.
- IP PANORAMA was designed to help SMEs utilize and manage Intellectual Property (IP) in their business strategy. In the past, most of the IP education materials had a legal orientation, even though businesses had a real need for a business-oriented IP education. IP PANORAMA increases IP-awareness among enterprise sector and a wide range of university students by providing practical knowledge about using IP for business success.
- IP PANORAMA relies on a brand new instructional design strategy based on 'Storytelling' along with educational technology. The learning content of each module was designed with a practical story regarding intellectual property. It is informative as well as interesting.
- IP PANORAMA deals with IP issues from a business perspective, especially focusing on the situation of SMEs.

The topics covered in the 10 modules are as follows:

IP PANORAMA 01: Importance of IP for SMEs

- › Why is IP relevant to your SME?
- › IP as a business asset
- › IP as an investment
- › The value of IP assets
- › Introduction of IP Audit



IP PANORAMA 02: Trademarks and Industrial Designs



Local intranet

Start | WIPO Applic... | 5 Novell Gr... | 2 Windows... | 2 Internet... | 2 Microsoft... | IPPanorama... | untitled - Paint | FR | ? | << >>

Distribution of IP PANORAMA CD

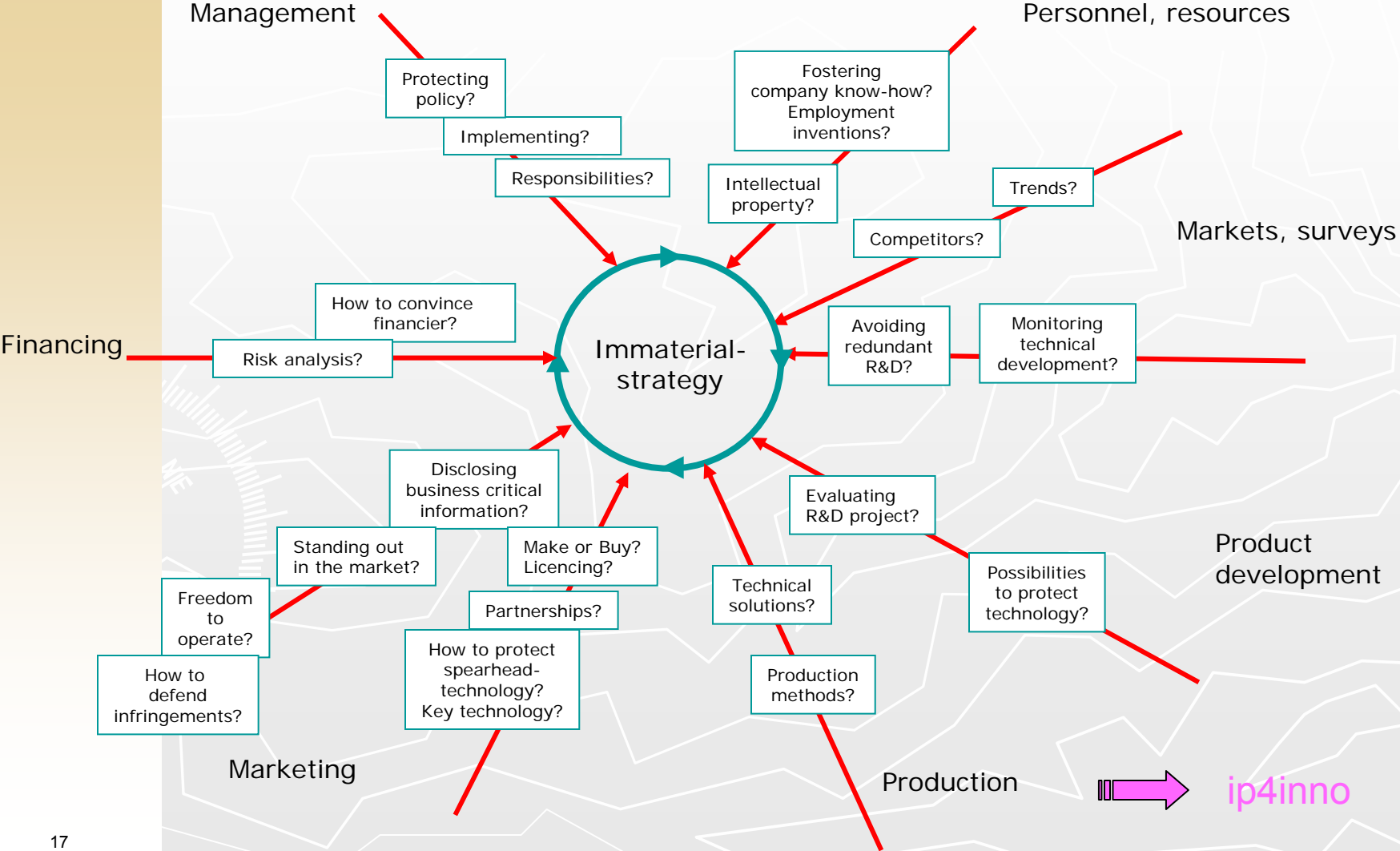
- To member states of WIPO
- To the partner of SMEs division



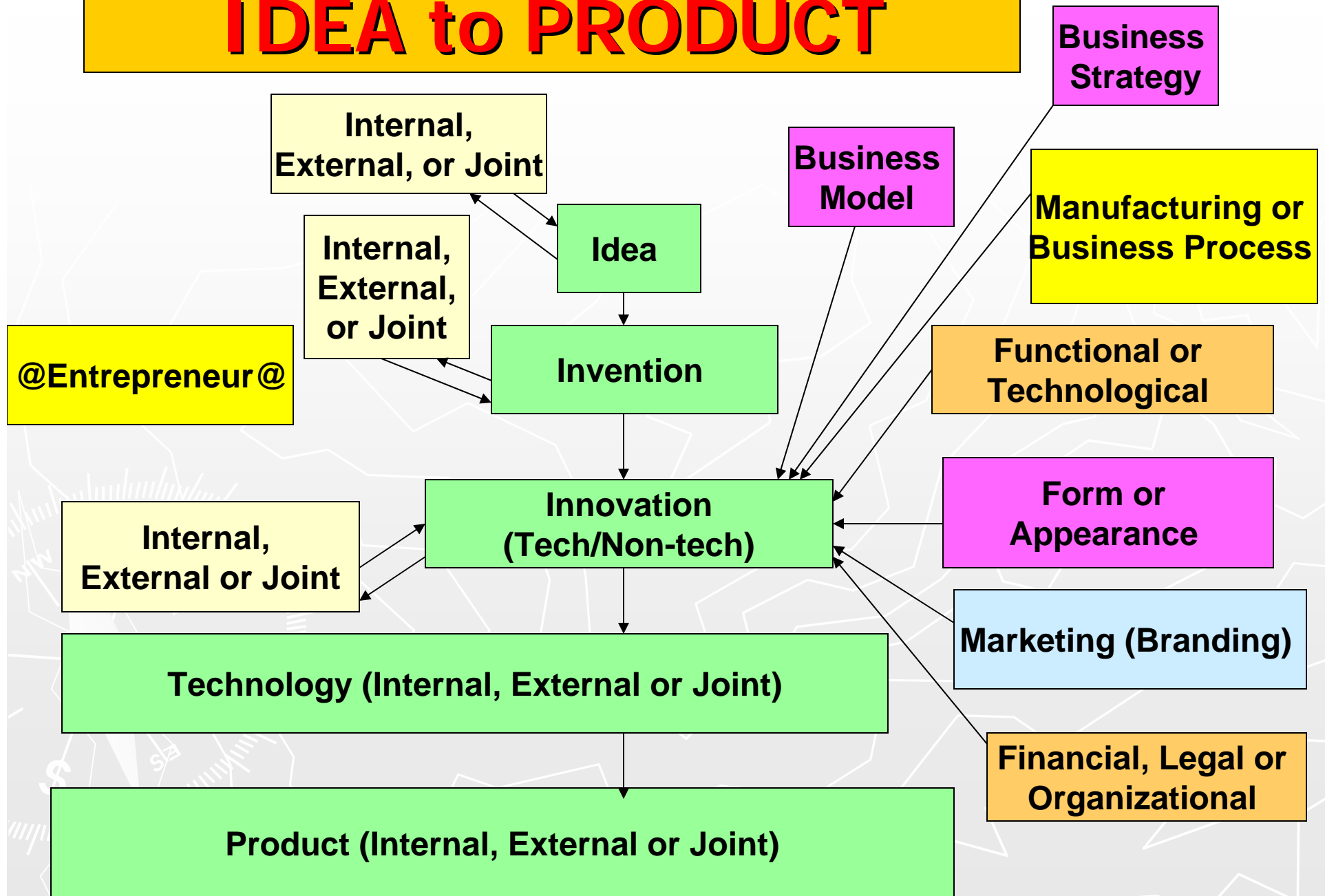
IP-System Supporting SMEs and Employment

IdeaPilot

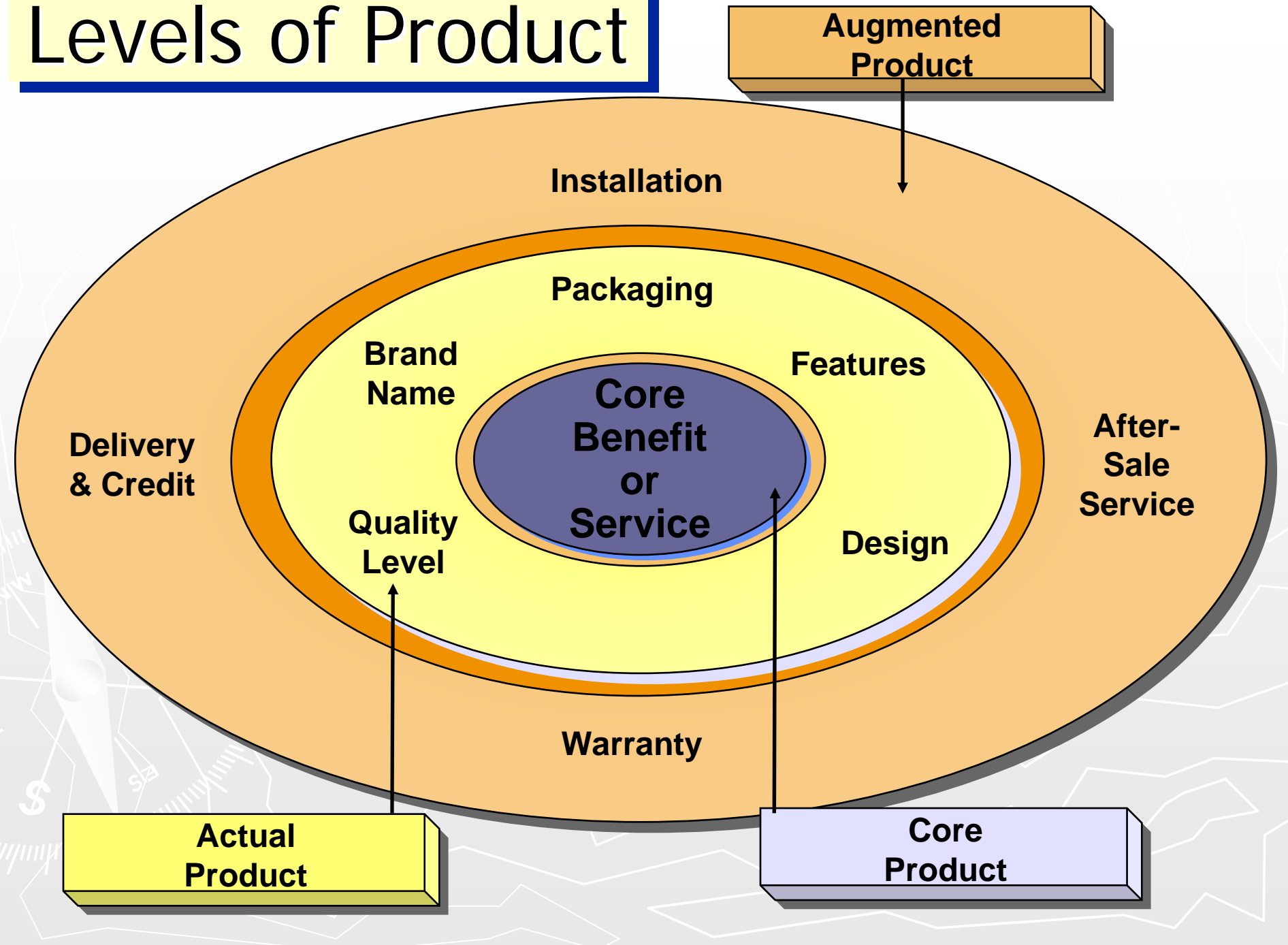
Usability: The structure of the IP-workbook



IDEA to PRODUCT



Levels of Product



The challenge of **adding value** in today's economy

- ▶ Raw materials/Inputs: Processing (**Value addition**) = Value added output/component; product; sale; **Profit**
- ▶ Value addition: **Cheaper, Faster, Better:** Functional/technological or aesthetic/non-technological; Rational/Emotional (**More for Less**)
- ▶ Price; access/availability; consistency
- ▶ Individual, Enterprise (legal person), Chains, Networks; consortia; **Open Innovation** (Industry-Government-Academia)
- ▶ Ownership vs. access to knowledge
- ▶ **Value Addition, Value Delivery and Value Extraction**

Introduction to IP Management 1

- ▶ Trademarks (Brands)
- ▶ Geographical Indications
- ▶ Industrial Designs
- ▶ Patents and Utility Models
- ▶ Copyright and Related Rights
- ▶ Trade Secrets
- ▶ New Varieties of Plants
- ▶ Unfair Competition

Introduction to IP Management 2

- ▶ Legal
- ▶ Technical
- ▶ Business
- ▶ Export
- ▶ Financial
- ▶ Relationships

- ▶ Accounting
- ▶ Tax
- ▶ Insurance
- ▶ Security
- ▶ Automation
- ▶ Personnel

An Aspect of Good Management

- ▶ People Management – because IP is generated by people and used by people
- ▶ Knowledge Management – because a lot of knowledge is informal and may or may not crystallise as recognisable category of IP
- ▶ IT Strategic Planning – because a lot of IP is IT-related; some of the more complex IP issues arise in IT context
- ▶ Contract Management – because IP is often created (or improved) in context of a contract (eg, supply contract or joint venture relationship)
- ▶ Asset Management – because IP is an asset, albeit intangible; it has a value
- ▶ Risk Management – because there are risks to an organisation flowing from its actions, or failure to act, in relation to IP including risk of lost opportunity)

From Invention to Innovation

While invention depends upon creativity, successful technological innovation requires integrating new knowledge with multiple business functions.

Innovation – What is it?

The creation of new ideas/processes which will lead to change in an enterprise's economic or social potential

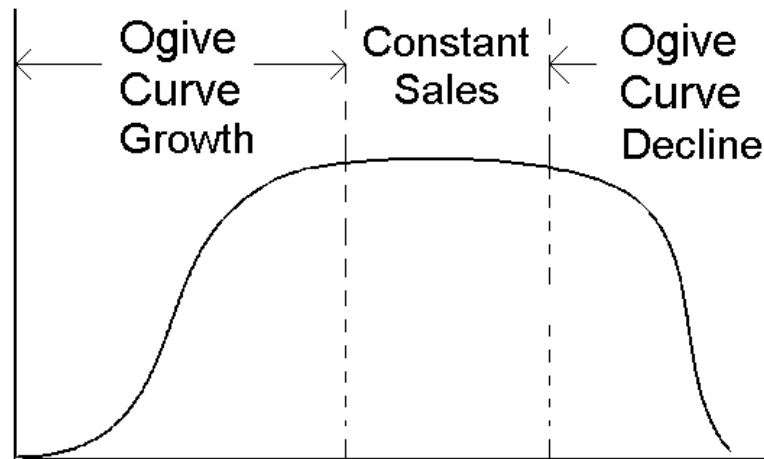
[P. Drucker, *The Discipline of Innovation*,
Harvard Business Review, Nov-Dec, 1998, 149]

Innovation

How to classify newness and degree of innovation and what to focus on:

- **New to the firm?**
- **First in the market?**
- **First in the world?**
- **Incremental or radical innovations?**

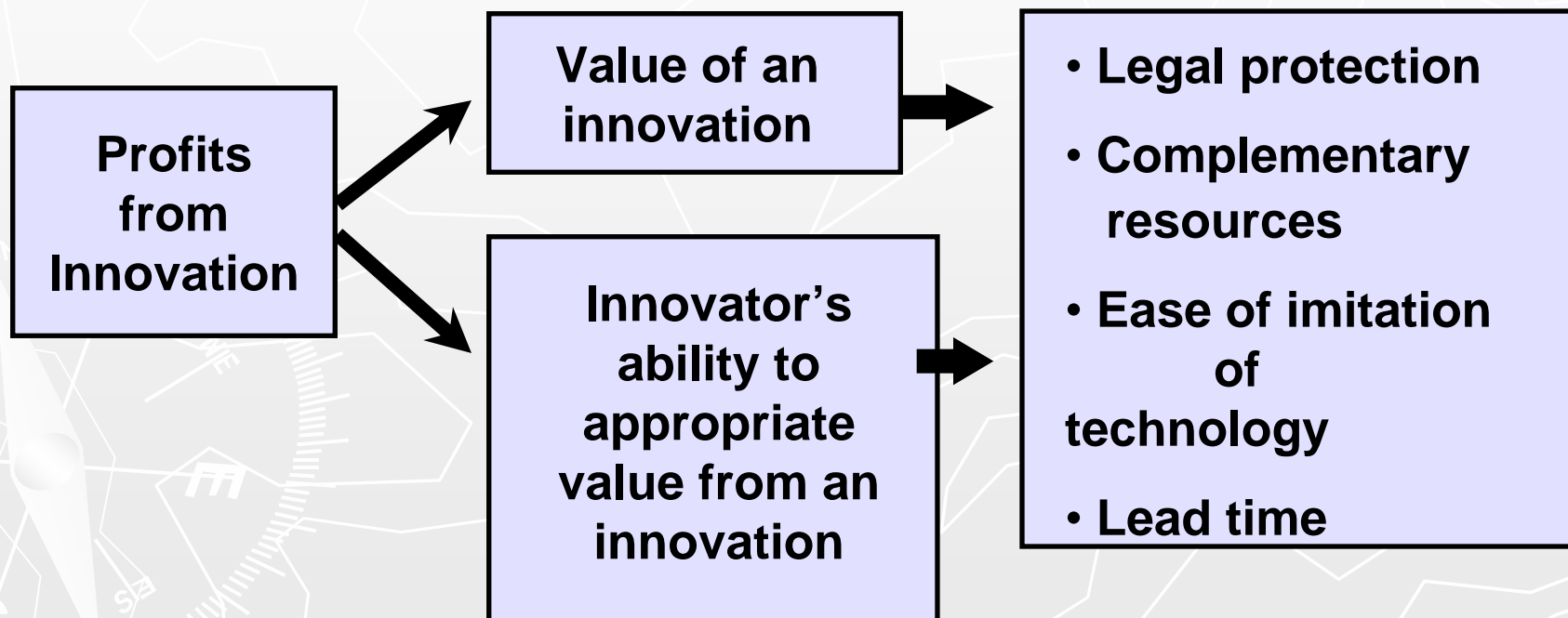
Why do we need Innovation?



➤ **Conclusion? - - If a company does not continue to introduce new products periodically, or at least significant improvements on existing products it will eventually be on a “going out of business” curve.**

➤ **Continuing to come up with the “right” product for the market takes a lot of innovation (plus a lot of “perspiration!”).**

The Profitability of Innovation

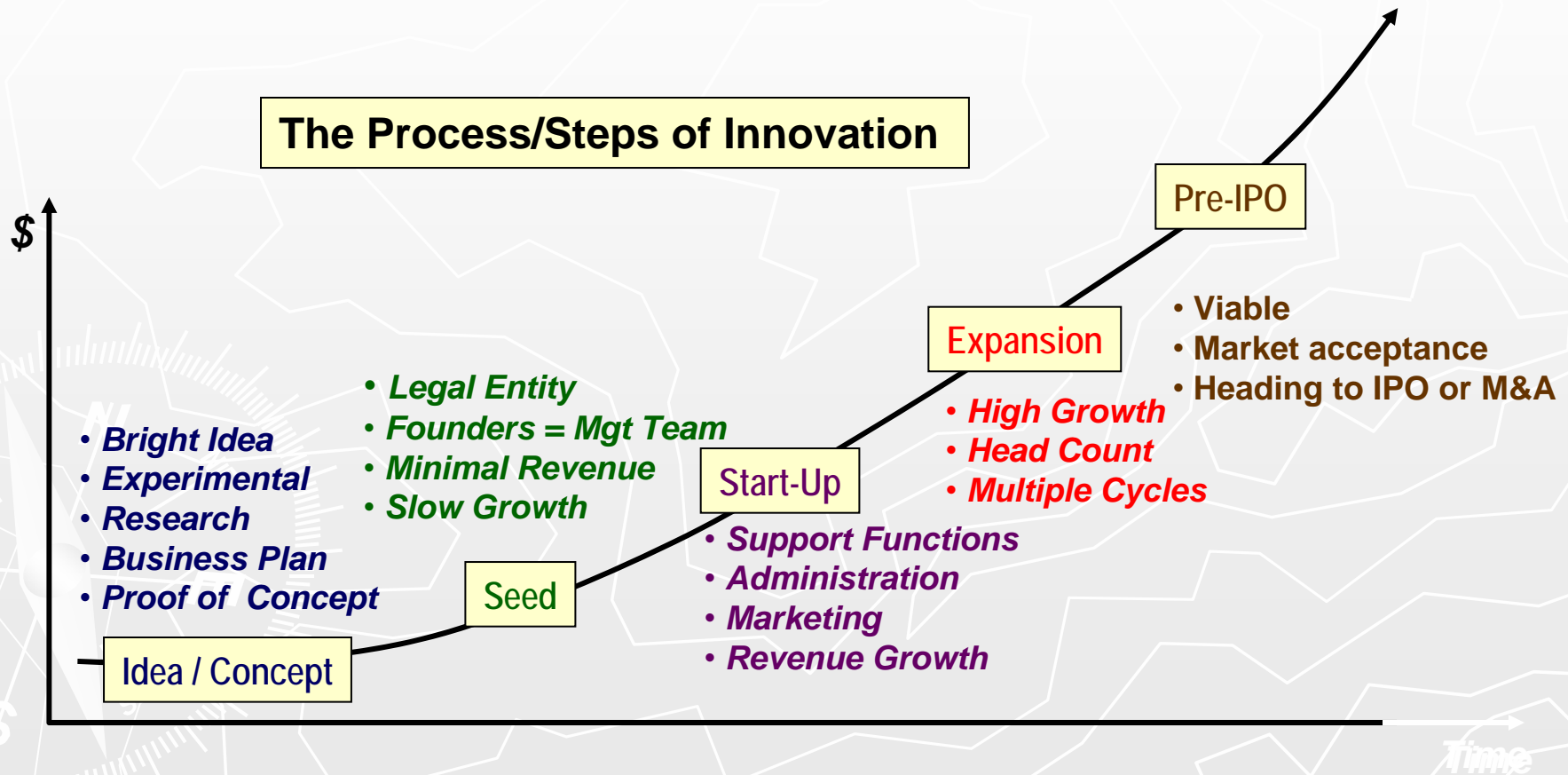


The "Right" Innovative Product?

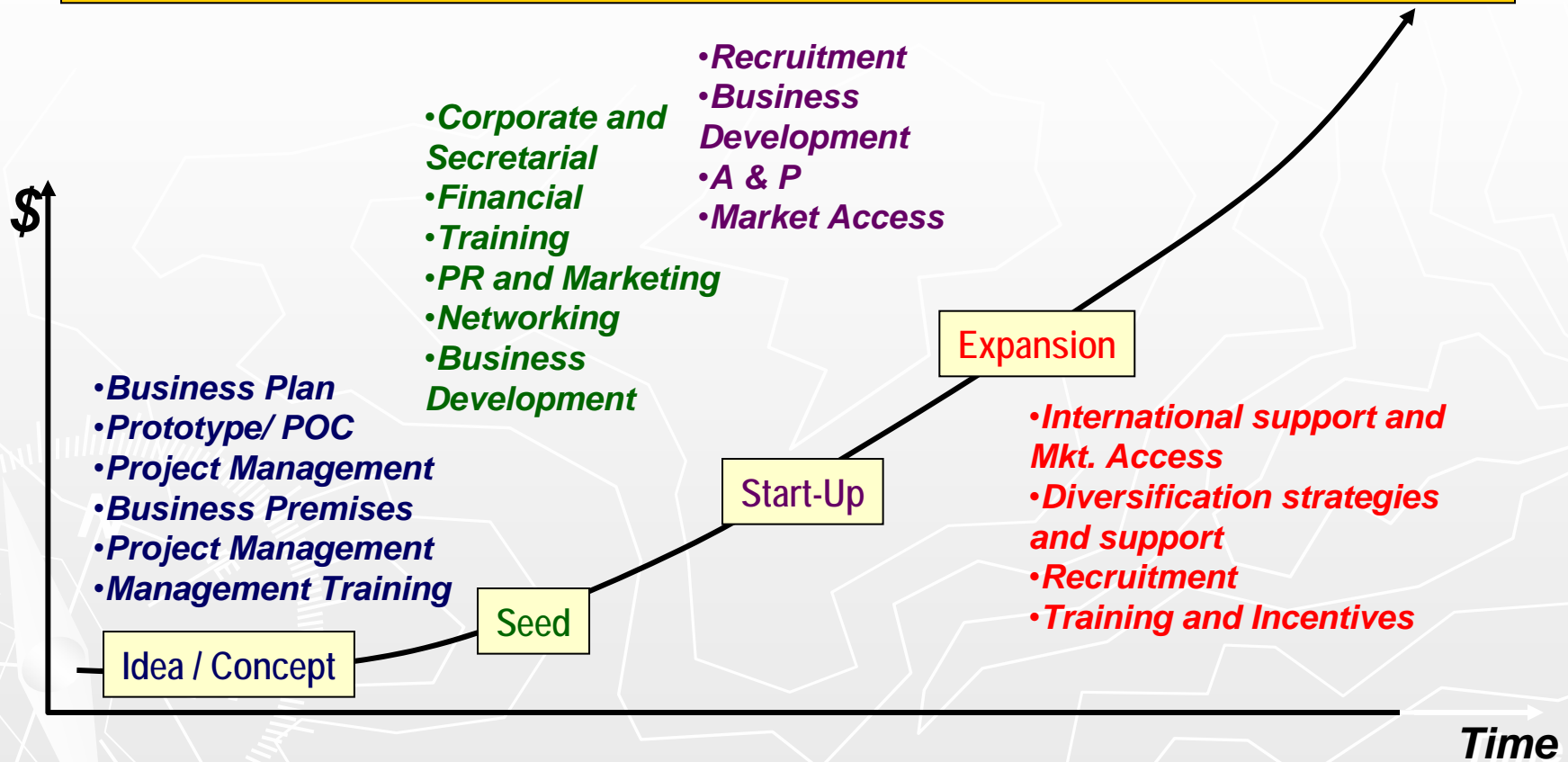
- The right product is one that becomes available at the right time (i.e., when the market needs it), and is better and/or less expensive than its competition.
- To have the right product, therefore, one must:
 - Predict a market need
 - Envisage a product whose performance and capability will meet that need
 - Develop the product to the appropriate time scale and produce it.

Understanding the Process of Innovation

The Process/Steps of Innovation



Needs of Each Stage



IP Management Needed in all stages

Goals of IP

- Protect a Potential Product
- Protect a Path to Market
- “Own a Space”
- Create Exclusivity and Desire
- Block Competition
- Funding
- Exits

US006763791B2

(12) **United States Patent**
Gardner et al.

(10) Patent No.: **US 6,763,791 B2**
(45) Date of Patent: **Jul. 20, 2004**

(54) **CAM PHASER FOR ENGINES HAVING TWO CHECK VALVES IN ROTOR BETWEEN CHAMBERS AND SPOOL VALVE**

(75) Inventors: **Marty Gardner**, Ithaca, NY (US);
Michael Duffield, Medina, NY (US)

(73) Assignee: **BorgWarner Inc.**, Auburn Hills, MI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 9 days.

(21) Appl. No.: **10/198,476**
(22) Filed: **Jul. 18, 2002**
(65) **Prior Publication Data**
US 2003/0013999 A1 Feb. 20, 2003

Related U.S. Application Data
(60) Provisional application No. 60/312,140, filed on Aug. 14, 2001.

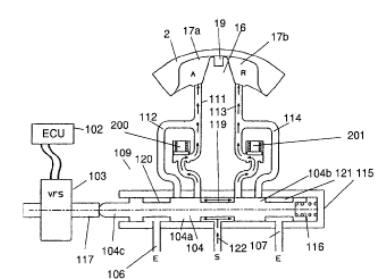
(51) Int. Cl.⁷ **F01L 134**
(52) U.S. Cl. **123/90.17; 125/90.15**
(58) Field of Search **123/90.13, 90.15**

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5,107,804 A 4/1992 Becker et al. 123/90.17
5,172,659 A * 12/1992 Butterfield et al. 123/90.17
5,184,578 A 2/1993 Quinn, Jr. et al. 123/90.17
5,361,735 A 11/1994 Butterfield et al. 123/90.17
5,367,992 A 11/1994 Butterfield et al. 123/90.17
5,386,807 A 2/1995 Linder 123/90.17

FOREIGN PATENT DOCUMENTS
EP 0801212 A1 10/1997 F01L134
* cited by examiner

ABSTRACT
An infinitely variable camshaft timing device (phaser) has a control valve located in the rotor. Since the control valve is in the rotor, the camshaft need only provide a single passage for supplying engine oil or hydraulic fluid, and does not need multiple passageways for controlling the phaser, as in the prior art. Two check valves, an advance chamber check valve and a retard chamber check valve, are also located in the rotor. The check valves in the control passages for each chamber. The main advantage of putting the check valves in the advance and retard chambers instead of having a single check valve in the supply is to reduce leakage. This design also eliminates high pressure oil flow across the spool valve and improves the response time of the check valve to the torque reversals due to a shorter oil path. In addition, the phaser of the present invention outperforms an oil pressure actuated device and consumes less oil.

14 Claims, 6 Drawing Sheets



IP Needs of Each Stage



Types of protection used

Confidentiality agreement

Confidentiality
Research contract (with IP clauses)

Confidentiality
Patent
Industrial Designs
Copyright

All previous plus:
Licensing agreements
Trade marks

All previous plus:
Enforcement of rights

Key IP activities

Patent Search
Competitor search

Avoid premature publication or disclosure

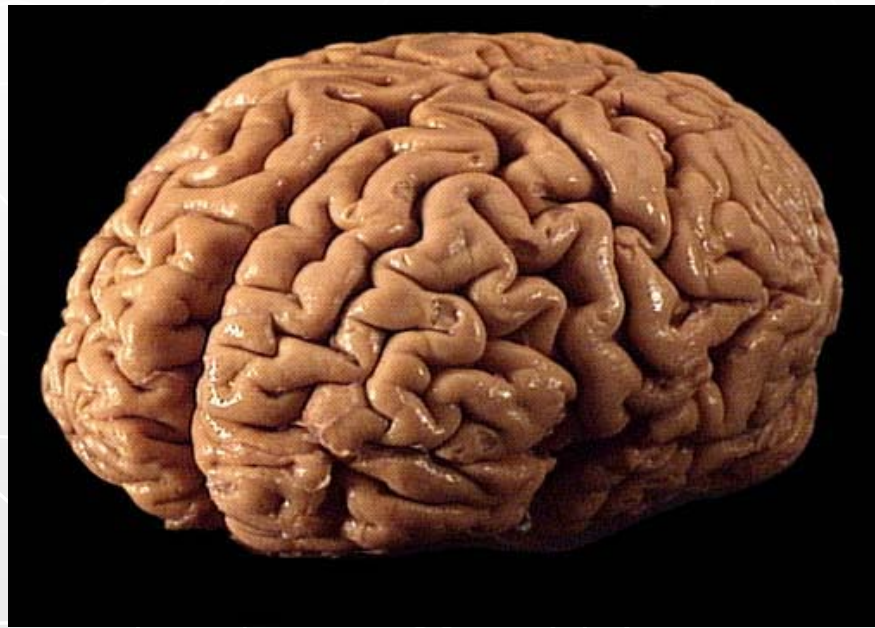
Develop patent strategy
Prepare and lodge patent

Identify licensing candidates
Augment patents

Enforce existing rights
Maintain patents

Intellectual Property: Attention at all Stages

Prosecution



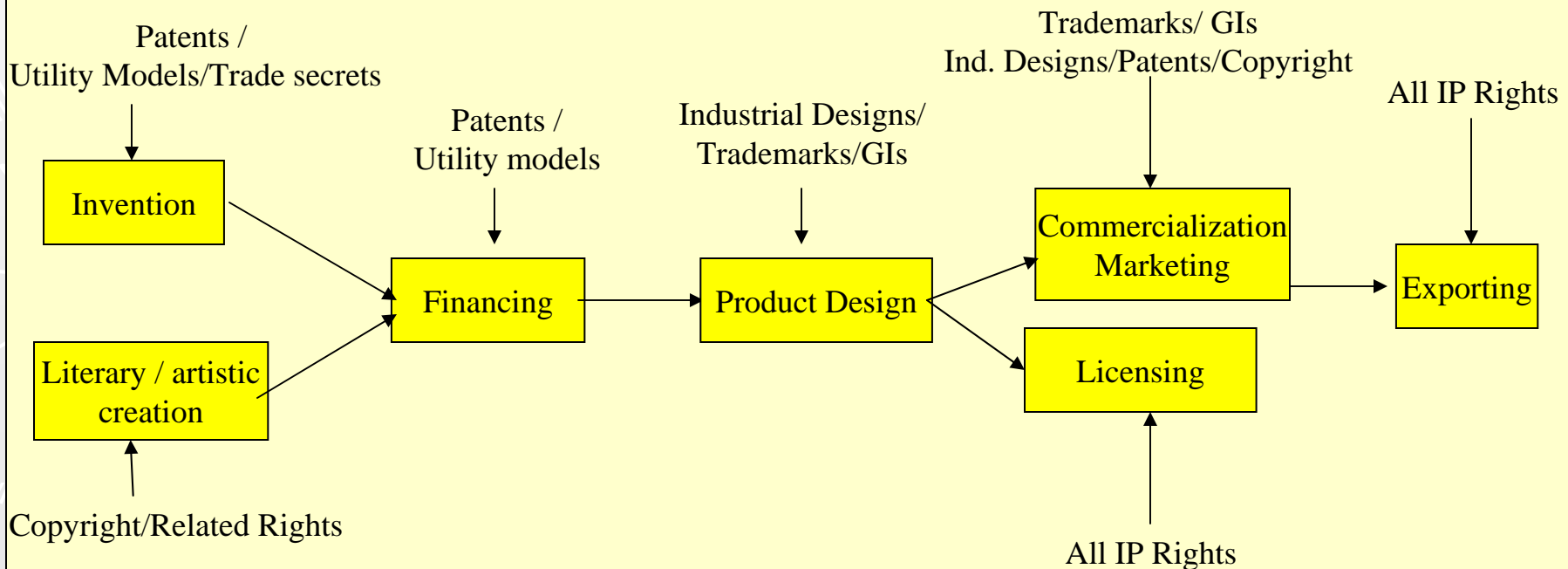
Transactions

Enforcement

Litigation

Basic Message 1

IP adds value at every stage of the value chain from creative/innovative **idea** to putting a new, better, and cheaper, product/service on the market:



Basic Message 2

- ▶ IP Strategy should be an **integral part** of the overall business strategy of an Enterprise
- ▶ The IP strategy of an Enterprise is influenced by its creative/innovative capacity, financial resources, field of technology, competitive environment, etc.
- ▶ BUT: *Ignoring the IP system altogether is in itself an IP strategy,*

A Hierarchy of IP/IC Management



Visionary
(Drive Growth)

Integrated
(Manage for Growth)

Profit Center
(Manage for Profitability)

Cost Control
(Control Costs, Improve Productivity)


Defensive
(Build Portfolio, Protect Markets and Technology)

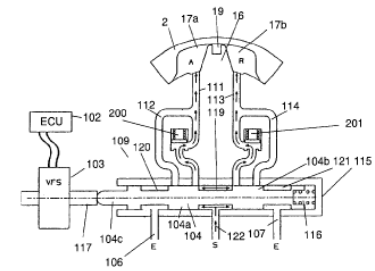
IP: Asset or Liability?

- Timing of Corporate Events: Funding / Exits
- Pending vs. Issued
- Competitors; IP Landscape
- “Freedom” – To FTO or Not?
- Value Inflection Curves
- Timing to Market vs Funding vs IP Costs
- Global vs Domestic
- “Types” of IP: Method vs Device Claims
- IP can reflect on management

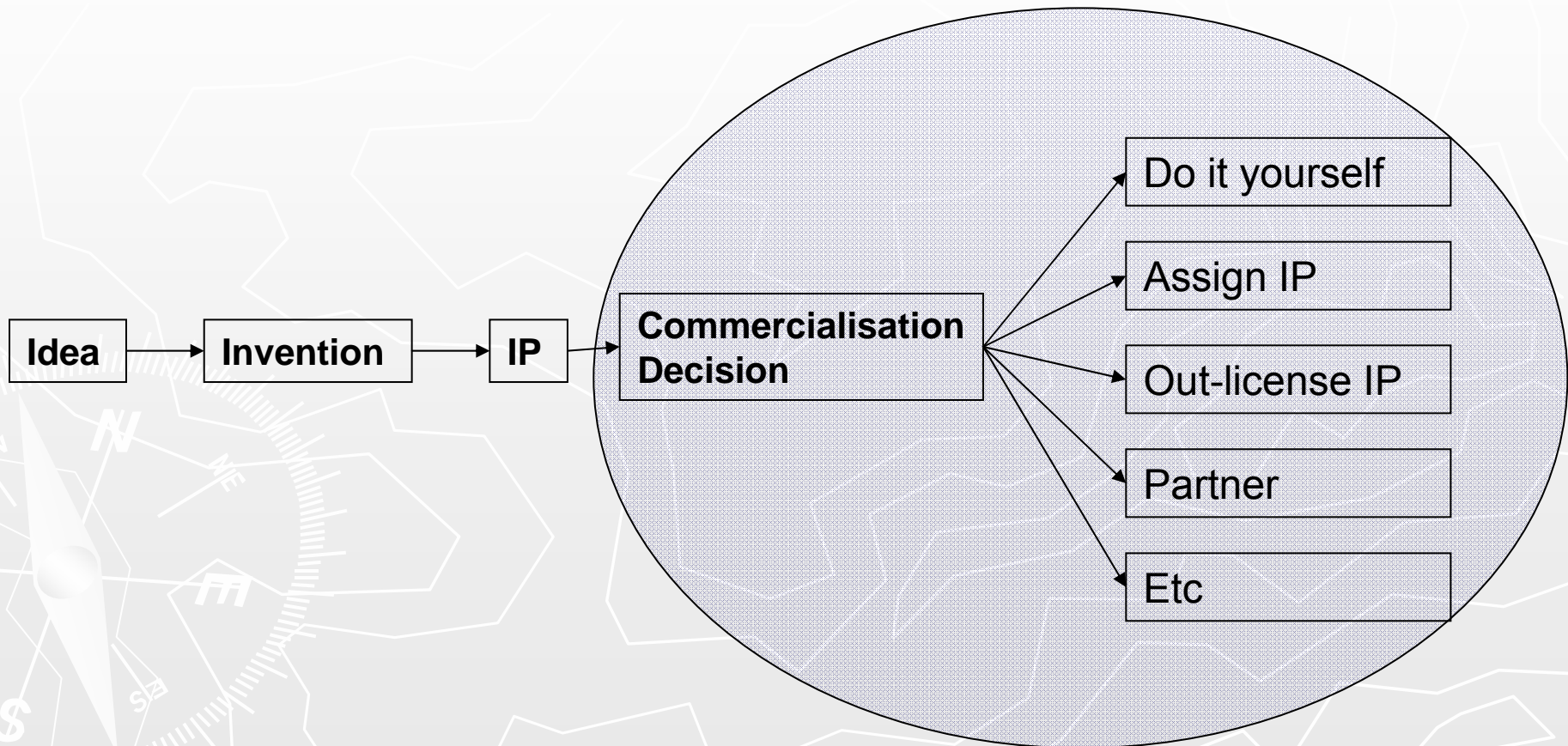
Summary: IP = Asset which should Build Value

- Protects a Blockbuster Product
- Protects a Path to Market
- “Owns a Space”
- Creates Exclusivity and Desire
- Blocks Competition
- Is Budgeted for; has a Strategy
- Encourages Funding
- Helps Drive Exits

		 US006763791B2	
(12) United States Patent Gardner et al.		(10) Patent No.: US 6,763,791 B2 (45) Date of Patent: Jul. 20, 2004	
(54) CAM PHASER FOR ENGINES HAVING TWO CHECK VALVES IN ROTOR BETWEEN CHAMBERS AND SPOOL VALVE		5,497,738 A * 3/1996 Simon et al. 123,901.17 5,657,725 A 8/1997 Butterfield et al. 123,901.17 6,024,961 A 2/2000 Adachi et al. 123,901.17 6,053,438 A 4/2000 Iznardi et al. 123,901.17 6,085,708 A 7/2000 Iznardi et al. 123,901.17 6,362,622 B1 2/2001 Golejani-Schmidt et al. 123,901.15 6,481,402 B1 * 11/2002 Simpson et al. 123,901.17	
(75) Inventors: Marty Gardner, Ithaca, NY (US); Michael Duffield, Medina, NY (US)		FOREIGN PATENT DOCUMENTS EP 0801212 A1 10/1997 F01L/344 * cited by examiner	
(73) Assignee: BorgWarner Inc., Auburn Hills, MI (US)		<i>Primary Examiner</i> —Thomas Denzin <i>Assistant Examiner</i> —Zelalem Esbete (74) Attorney, Agent, or Firm —Brown & Michaels PC; Greg Dziugalewski	
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.		ABSTRACT An infinitely variable camshaft timing device (phaser) has a control valve located in the rotor. Since the control valve is in the rotor, the camshaft need only provide a single passage for supplying engine oil or hydraulic fluid, and does not need multiple passageways for controlling the phaser, as in the prior art. Two check valves, an advance chamber check valve and a retard chamber check valve, are also located in the rotor. The check valves are located in the control passages for each chamber. The main advantage of putting the check valves in the advance and retard chambers instead of having a single check valve in the supply is to reduce leakage. This design also eliminates high pressure oil flow across the spool valve and improves the response time of the check valve to the torque reversals due to a shorter oil path. In addition, the phaser of the present invention outperforms an oil pressure actuated device and consumes less oil.	
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(51) Int. CL⁷ F01L 1/34			
(52) U.S. CL 123,901.17; 125,900.15			
(58) Field of Search 123,901.13, 90.15			
(56) References Cited			
U.S. PATENT DOCUMENTS			
5,002,023 A 3/1991 Butterfield et al. 123,901.15 5,107,808 A 4/1992 Becker et al. 123,901.17 5,172,659 A * 12/1992 Butterfield et al. 123,901.17 5,184,578 A 2/1993 Quinn, Jr, et al. 123,901.17 5,361,735 A 11/1994 Butterfield et al. 123,901.17 5,367,992 A 11/1994 Butterfield et al. 123,901.17 5,386,807 A 2/1995 Linder 123,901.17			
		14 Claims, 6 Drawing Sheets	



The 'Commercialisation Pipeline'

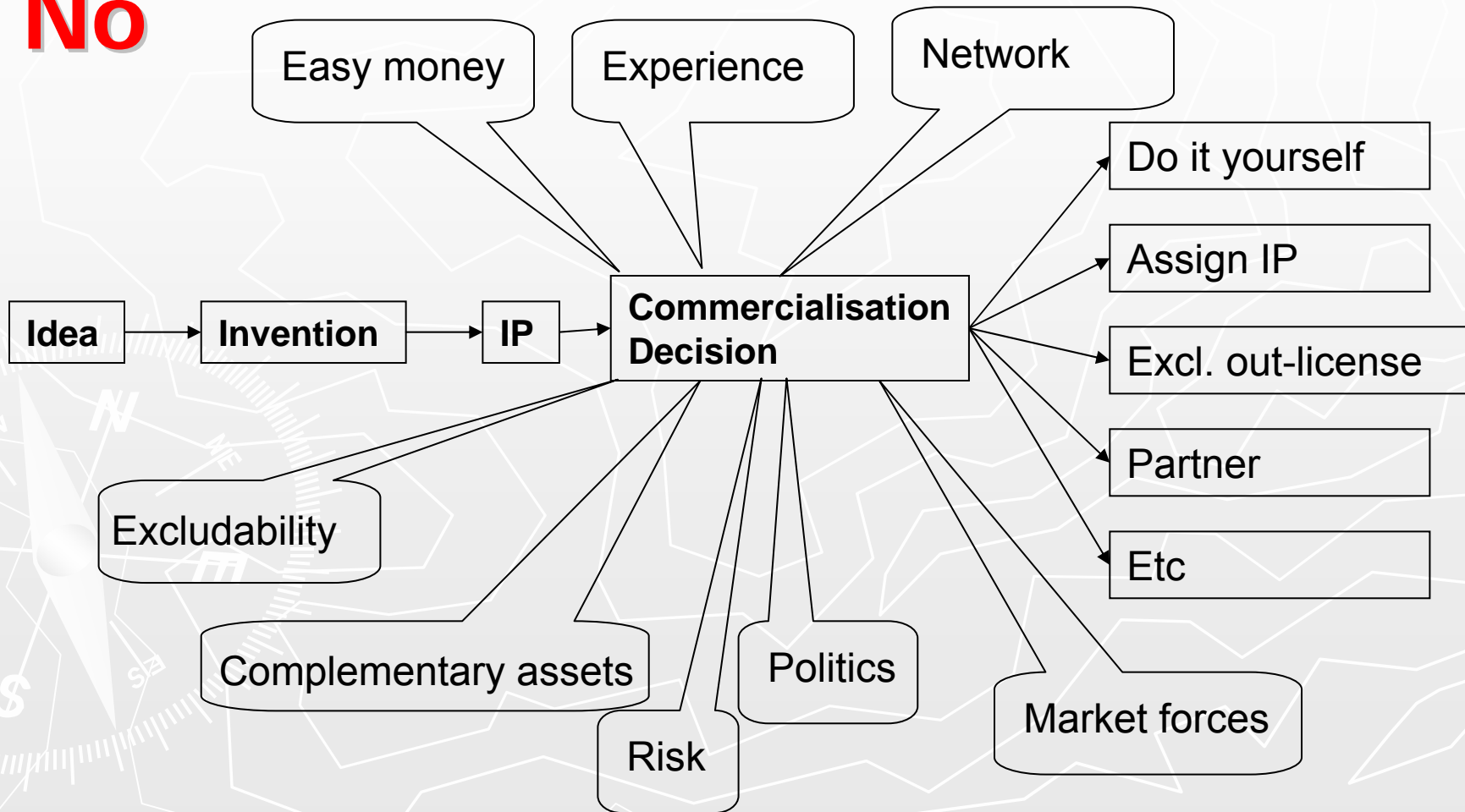


How are commercialisation strategies actually chosen?

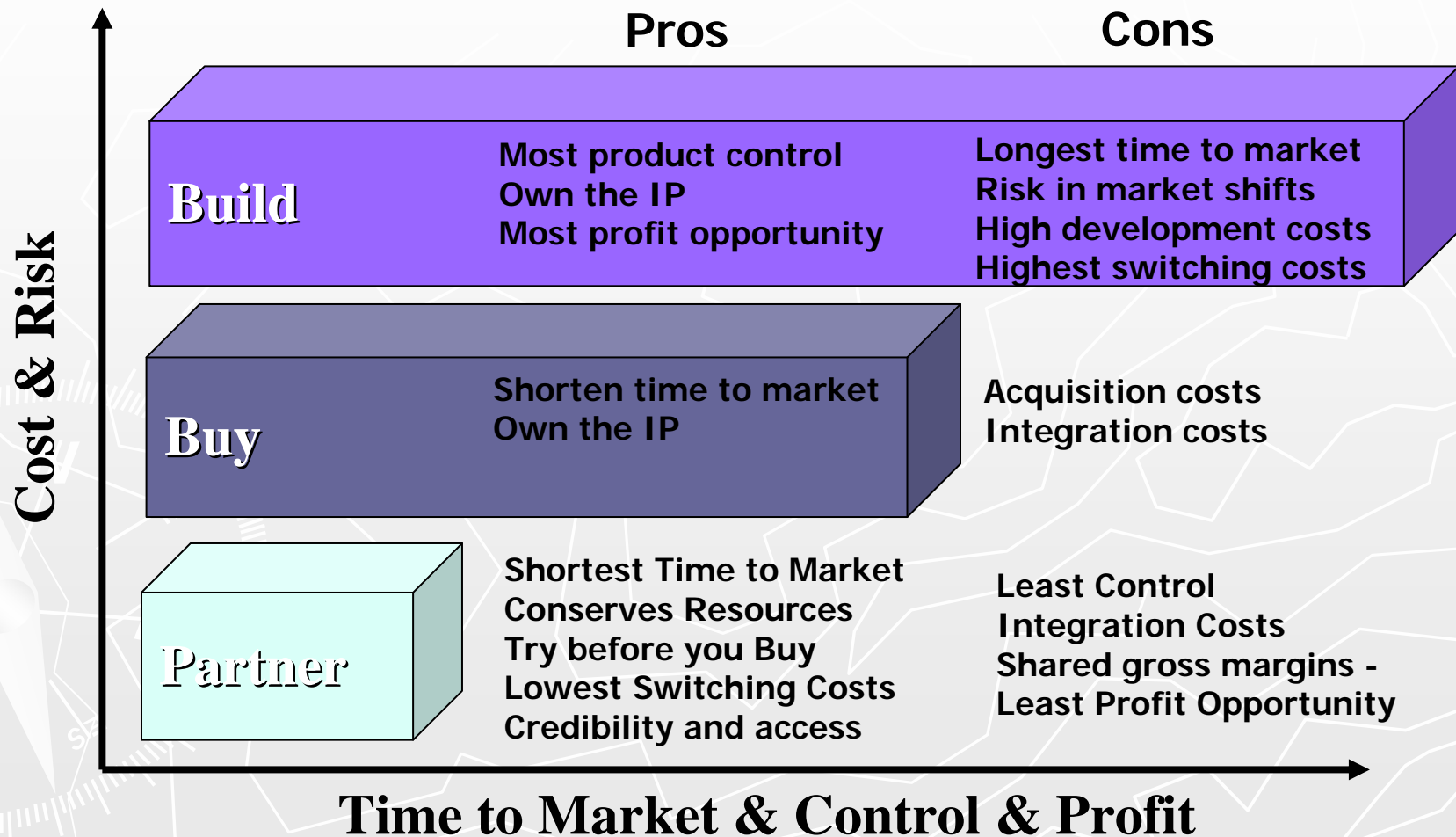
- ▶ Ability to exclude incumbants¹
- ▶ Complementary asset environment¹
- ▶ Others
 - Go where the easy money is
 - Past Experience
 - Internal constraints & politics
 - Business network of the entrepreneur
 - Risk adversity
 - Market forces
 - etc

A Simple Process?

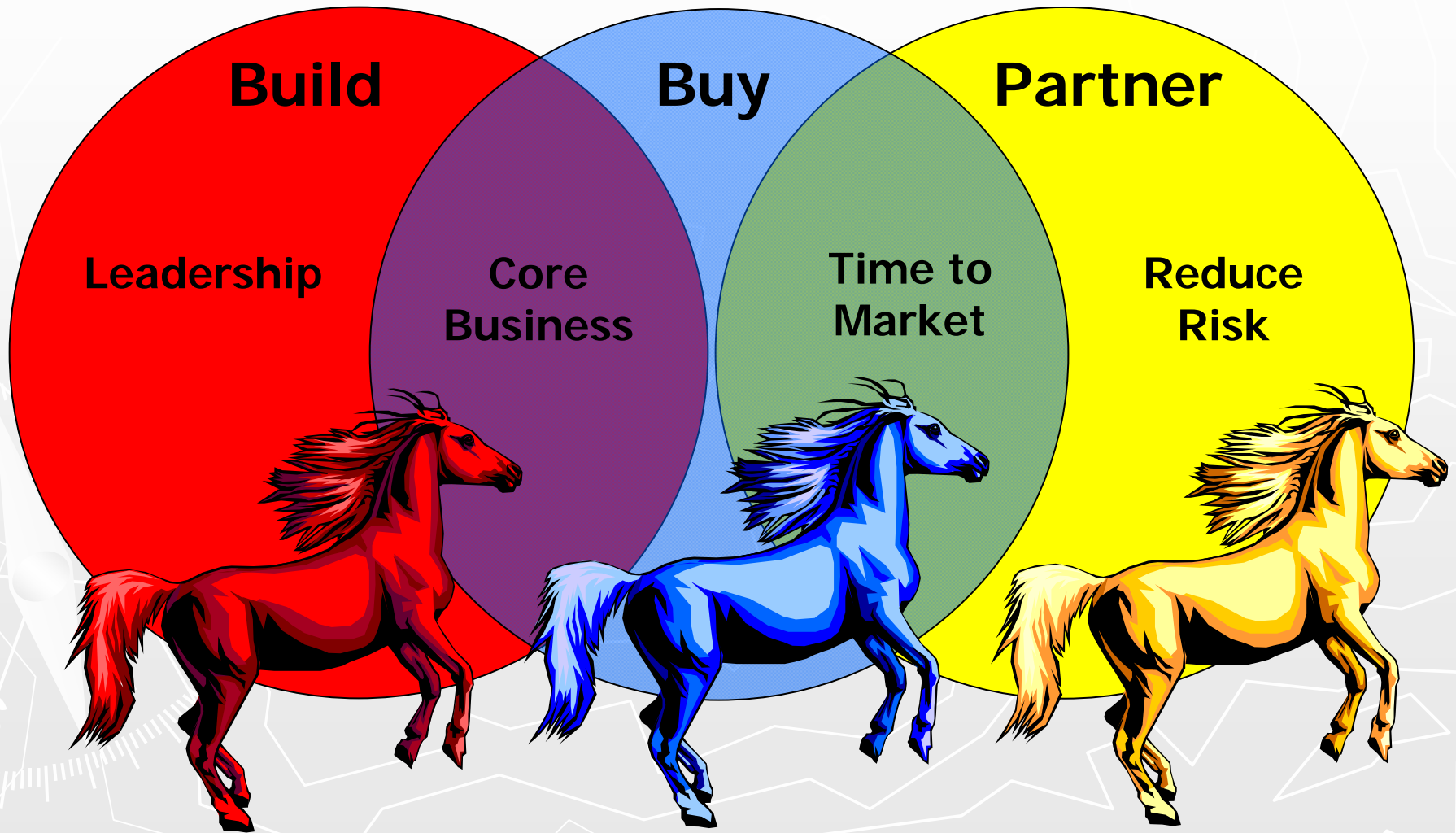
No



Build, Buy, Partner: *Benefits and Tradeoffs*



Which horse to pick?



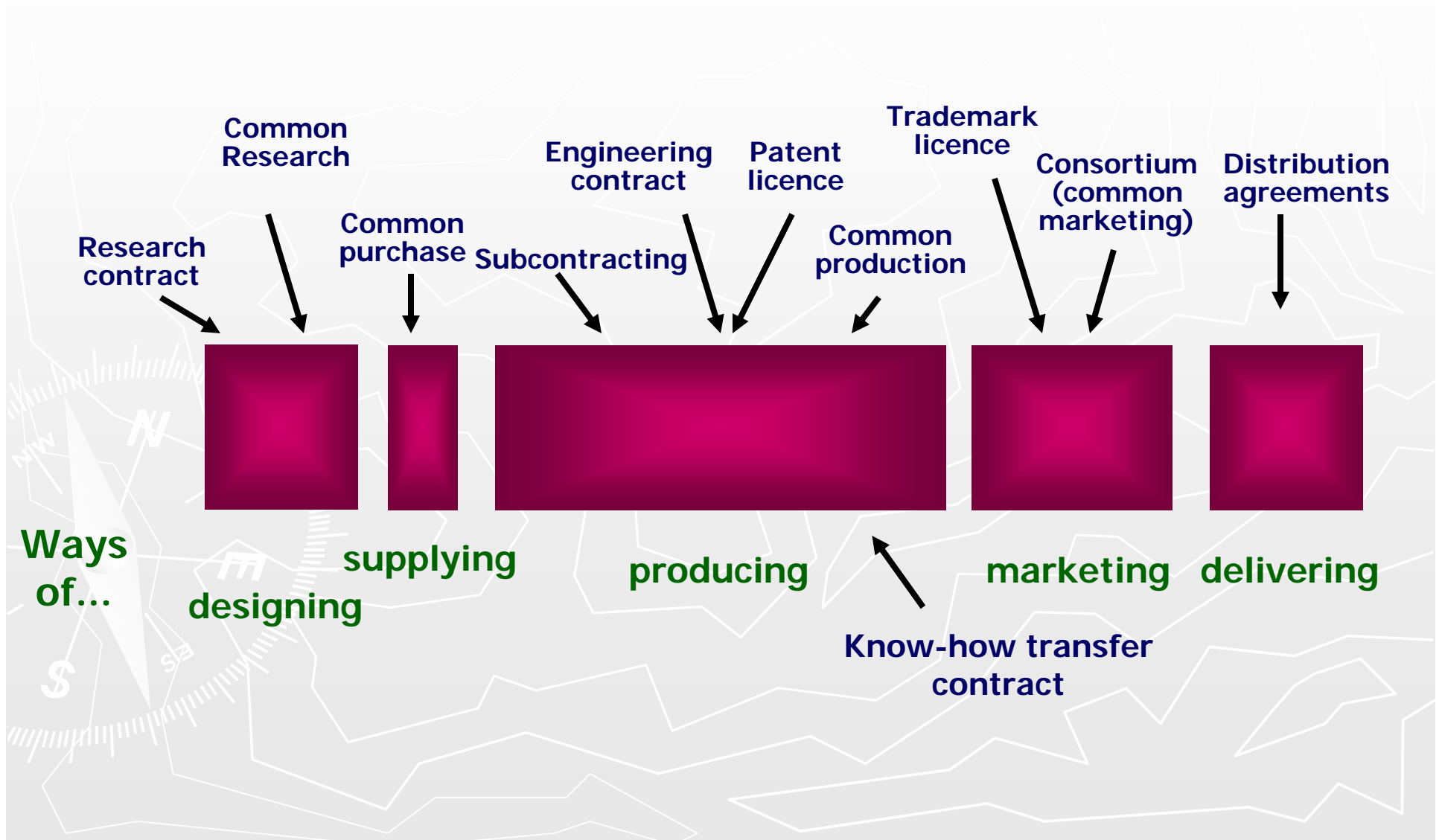
The Key is Collaboration



“Few if any companies today can hold all the pieces of their own product technology...they simply must collaborate with others if they want to survive and prosper... **IP has become much more of a bridge to collaboration**”

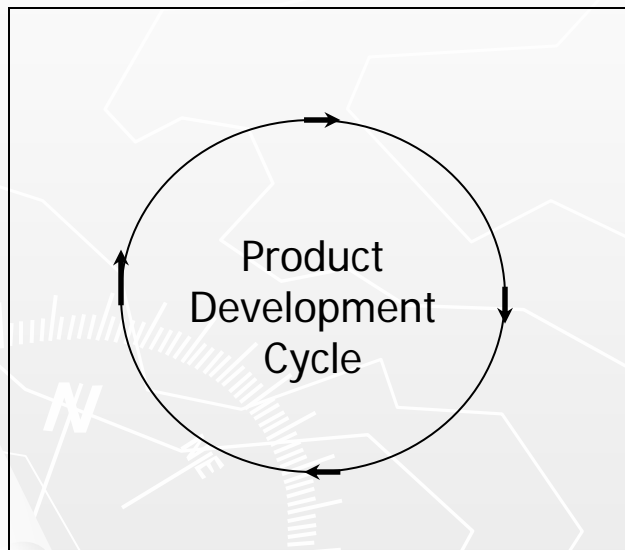
Marshall Phelps, Microsoft

Eleven Modes of Collaboration Agreements: Illustration of Their Anchor Points



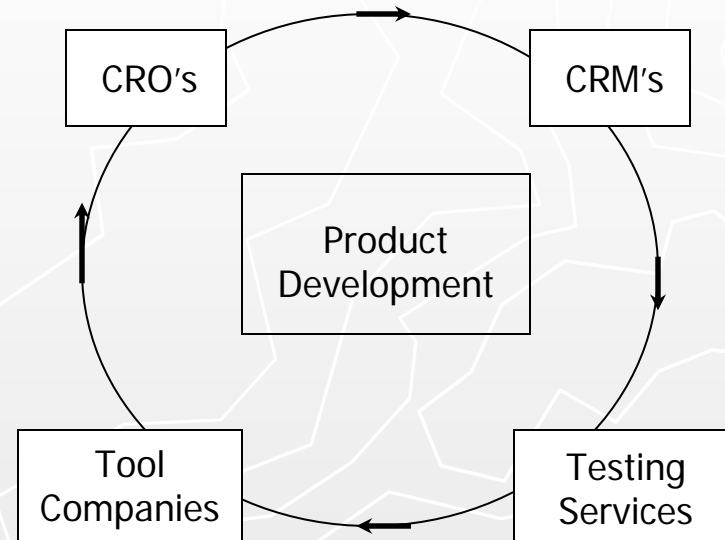
New Business Models Emerge

Then...



One Integrated Company

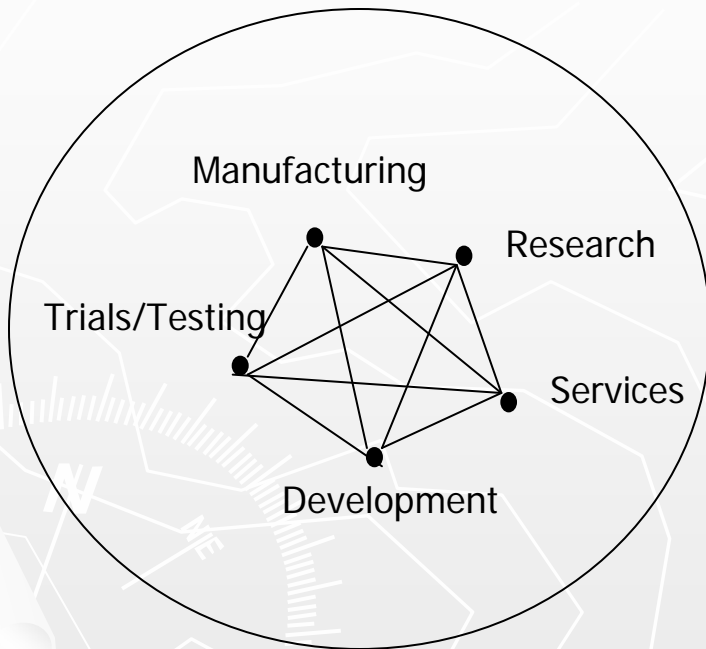
Now...



Many Distributed Companies

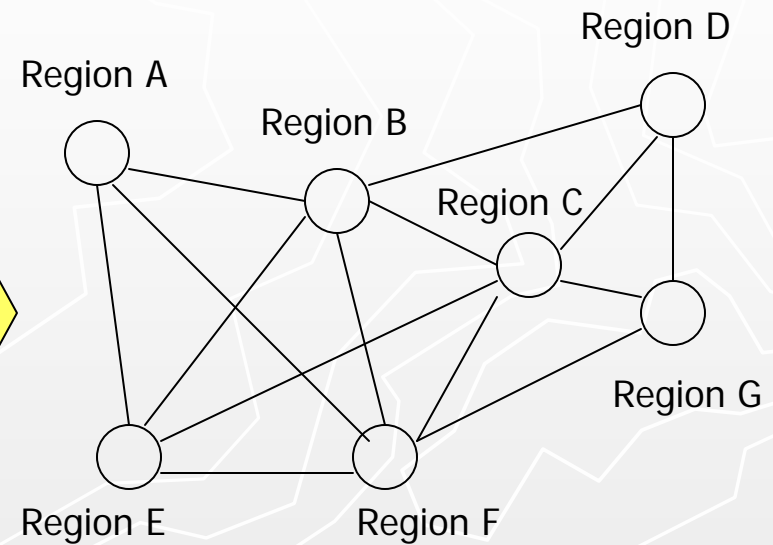
New Regional Model Emerge

Then...



Self-contained regional clusters

Now...

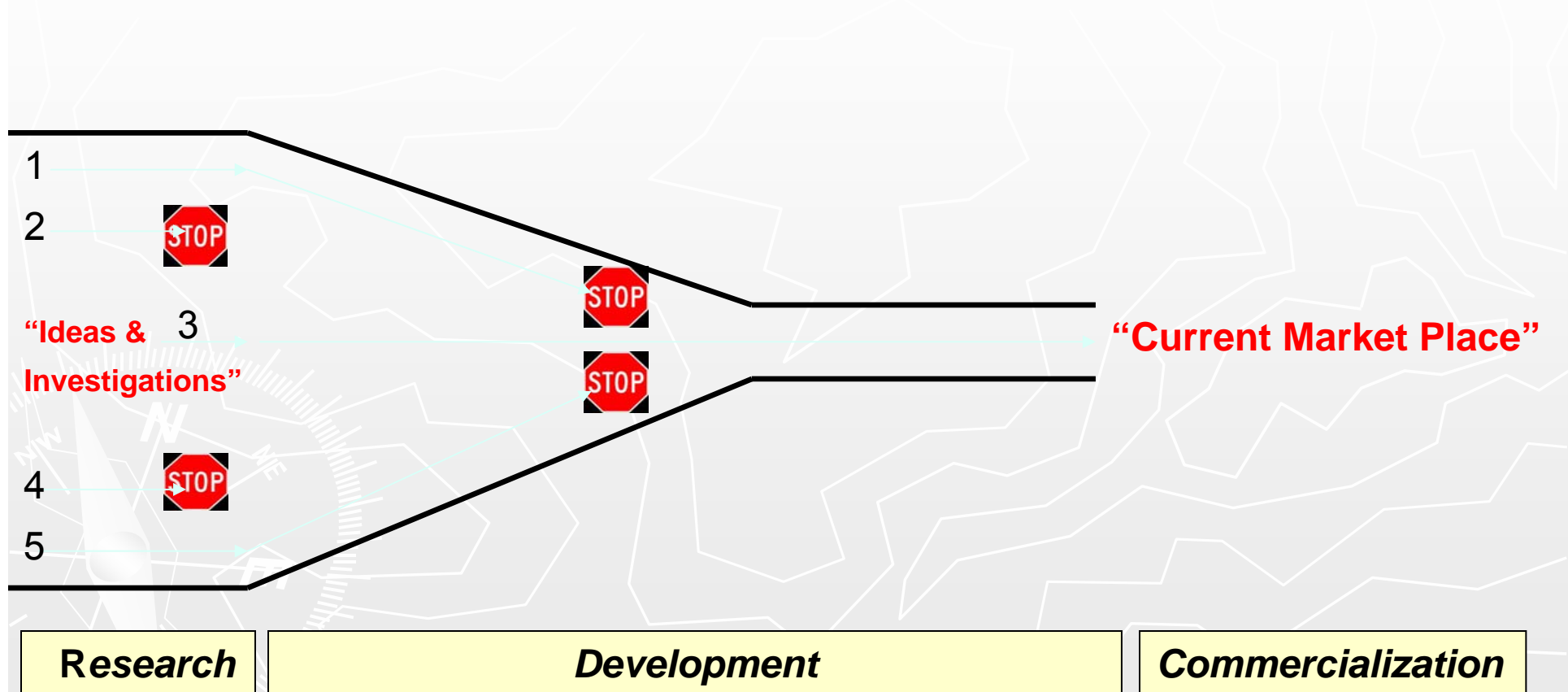


Specialized, networked regions

New developments in innovation raises new issues and problems

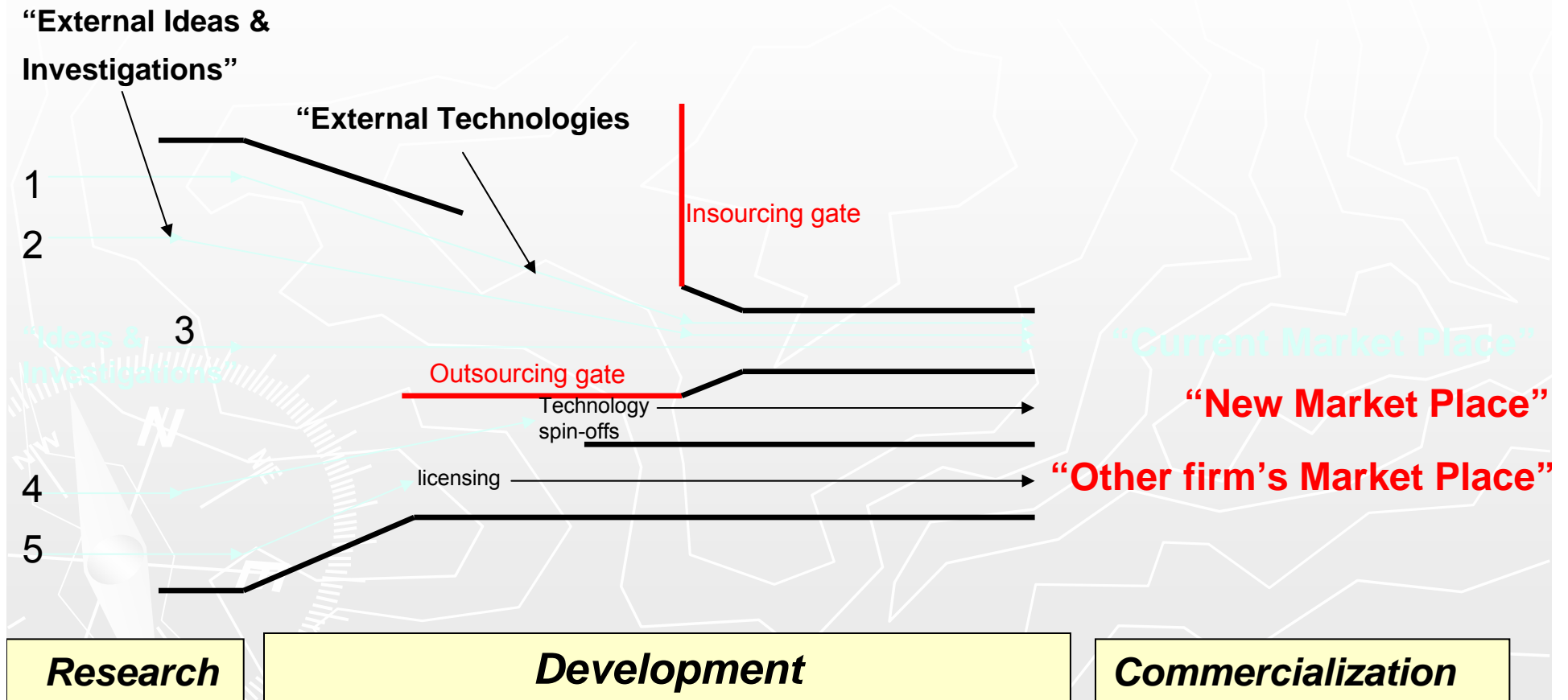
- ▶ Greater emphasis on **commercializing scientific discoveries**, particularly in IT and the bio-sciences
- ▶ Speed and potential value of scientific progress leads to emphasis on **solid and well-designed portfolios of research projects**
- ▶ Universities as **active** drivers of innovation: Academic entrepreneurship and the entrepreneurial university
- ▶ University-industry partnerships
- ▶ Increased search for **radical innovation** and top-line growth.

'Closed Innovation: Single Track'



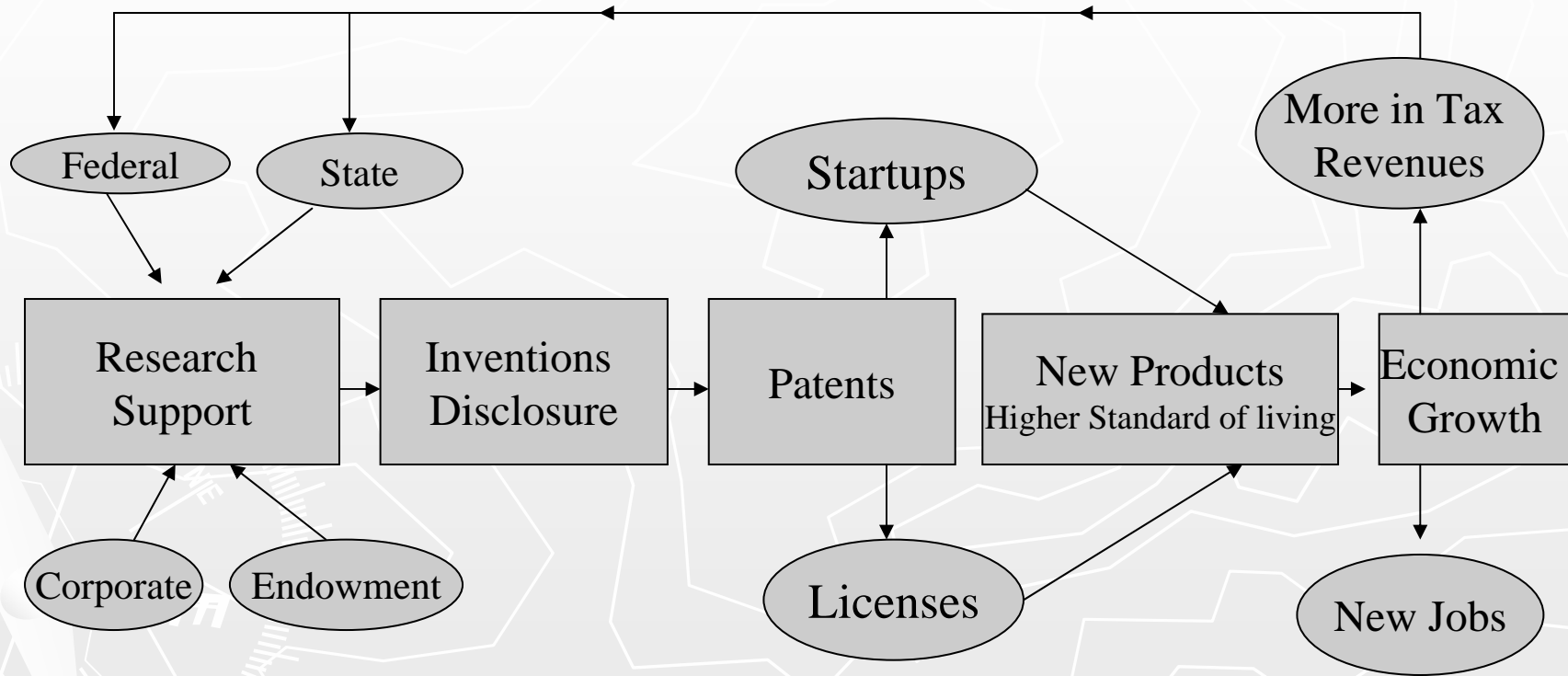
Based upon 'Open Innovation: Researching a New Paradigm'
(2006) Henry Chesbrough, Wim Vanhaverbeke & Joel West

'Open Innovation: Three Lane Highway'

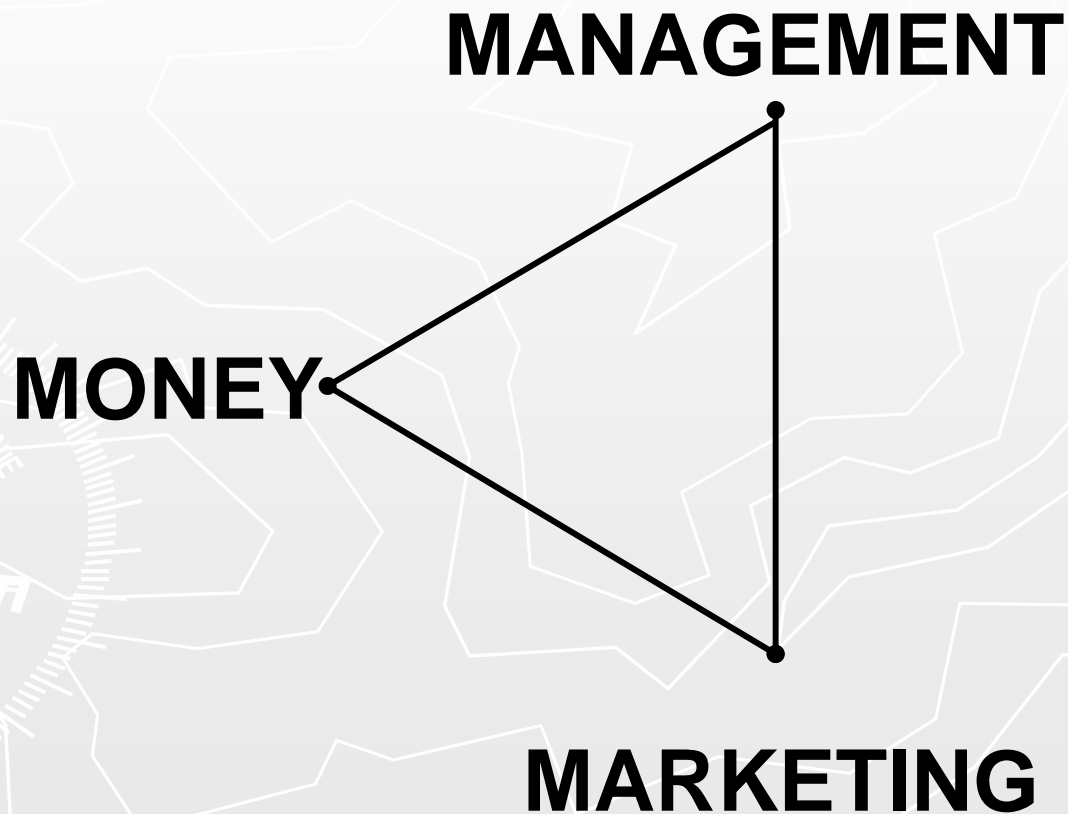


Based upon 'Open Innovation: Researching a New Paradigm'
(2006) Henry Chesbrough, Wim Vanhaverbeke & Joel West

Stages of Technology Transfer: From Research Support to Economic Growth

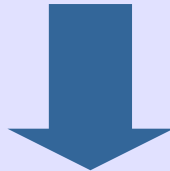


3 M's of ENTREPRENEURSHIP

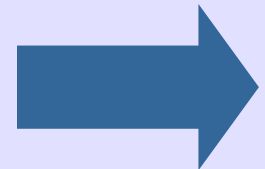


IS A COMPANY READY?

- Business plan?
- Stage of development of the company
- Type of investment?
- Valuation?
- Management team ready?



- Has the management team enough time and energy to raise funds?
- Is the team shaped to talk to investors?
- Does the company know where to go?



Positioning for a Capital Injection

PEOPLE

Strategy

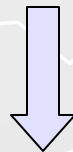
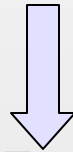
- Business model
- Resourcing
- Target investors

MARKET

TECHNOLOGY

Valuation / Building value

Capital Injection



Add value before raising capital

- ▶ Documentation and Presentation
- ▶ Government grants
- ▶ **Intellectual Property Protection**
- ▶ R&D Partners
- ▶ In principle agreements
 - ▶ Licences
 - ▶ Customers

The "Ask and Offer"

- ▶ Financial Projections
- ▶ **Business and IP valuation**
 - ▶ Critical negotiating tools
 - ▶ Justifies assumptions
 - ▶ Forces in depth research
 - ▶ Forces decision making
 - ▶ Makes you strong and confident

SOURCES OF START-UP CAPITAL (USA)

OTHERS	(3,9%)
GOVERNMENT LOANS	(1,1%)
MORTGAGED PROPERTY	(4,0%)
VENTURE CAPITALISTS	(6,3%)
FRIENDS	(9,0%)
EMPLOYEES / PARTNERS	(12,45)
FAMILY MEMBERS	(12,9%)
BANK LOANS	(14,4%)
PERSONAL SAVINGS	(78,5%)

START-UP CAPITAL

- ▶ 25% start with less than \$5,000
- ▶ 50% start with less than \$25,000
- ▶ 75% start with less than \$75,000
- ▶ Less than 5 % with \$ 1,000,000 or more

The Paradox of Access to Finance

- ▶ Banks
 - ▶ Venture Capitalists
 - ▶ Stock Exchange
- have money

But argue that there aren't enough good projects

What is a good project?

A Good Project!

A good project is a project presenting in the eyes of an investor:

- ▶ acceptable risk profile
- ▶ a good perspective of return

this means:

- ▶ access to market = **innovation**
- ▶ **profits**

Source of High Risks Money

Which are today these sources ? we may regroup these in 3 major groups:

■ **Business Angels**: we are basically talking here about **rich private individuals** who are ready to invest much needed “**seed capital**” at a very early stage of development of a company, i.e. for new and speculative projects. Their role is extremely important, when we talk about raising money between USD 0.5 and 2 million.

■ **Venture capital investors**: these are usually **private equity funds** managed by professionals. They seek to identify and finance the rapid growth of high potential young firms that embrace innovative products, processes or technologies. This way, they generate substantial rewards from successfully overtaking existing business paradigms. *Note that very often, traditional finance institutions do invest a small part of their funds into alternative investments such as these V.C. funds.*

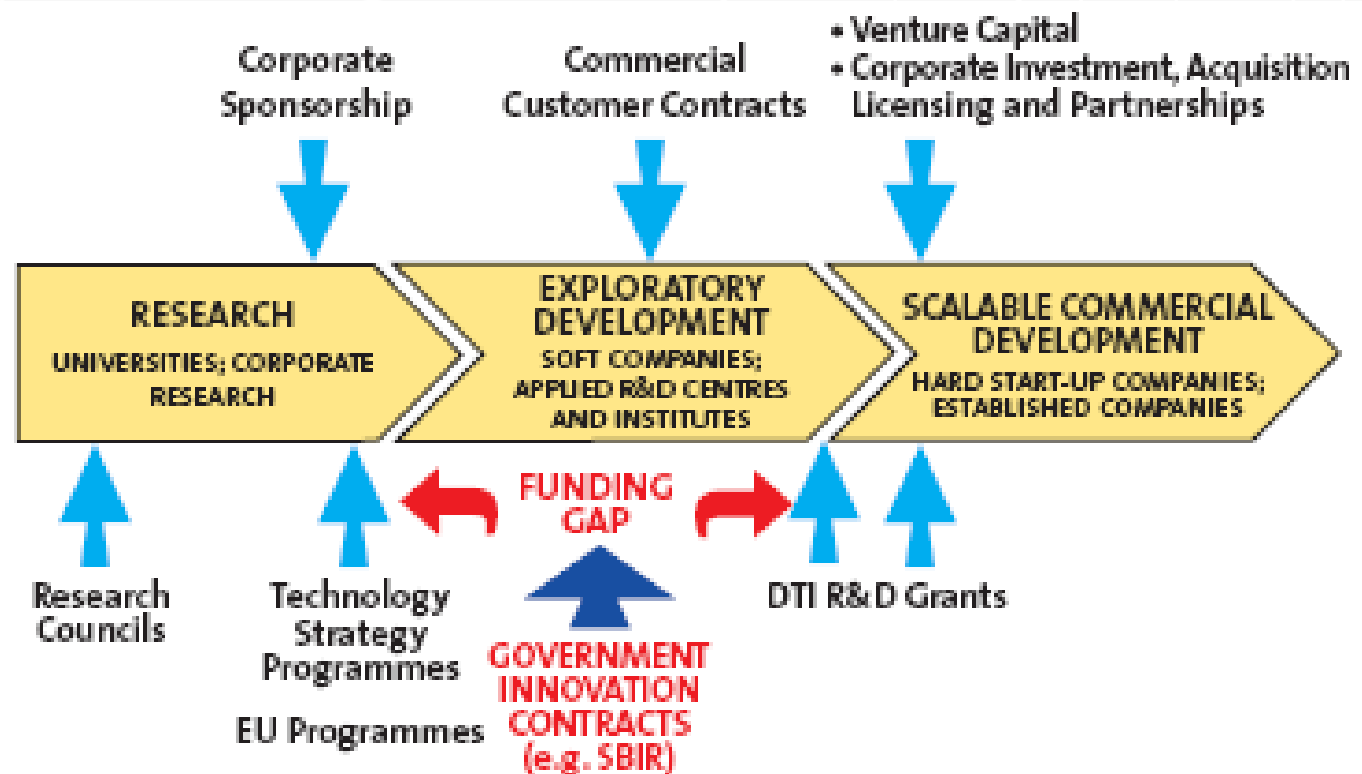
■ Last but not least, **Governments**: The first computers, the first commercial jet planes were built in the U.S.A. as funded by DoD contracts. The U.S.A and Europe have set up specific programs to promote new science and technology businesses. These are key tools in helping scientists to engage into new business ventures.

N.B: A business environment – laws, taxes, etc... – which encourages private and commercial investors to invest into risk taking ventures is an absolute prerequisite.

Government First: U.S.A.

The U.S. example – the **Small Business Innovation Research** program

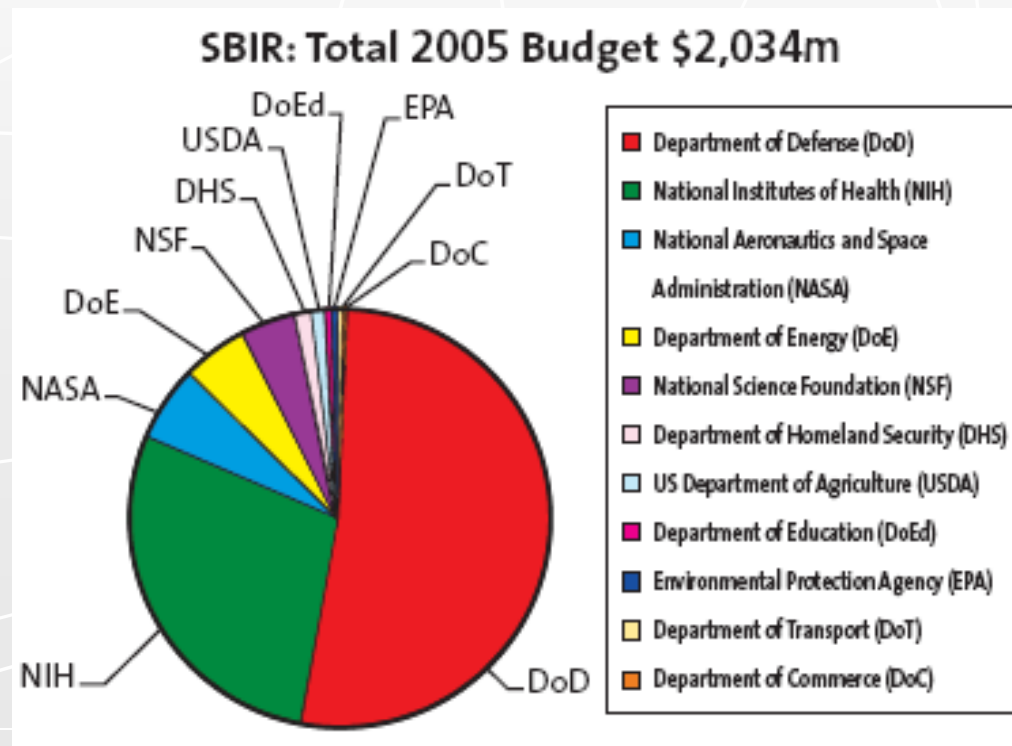
■ SBIR awards take the form of contracts for the development of technologies required by agencies of the US Government. They provide 100% of the funding needed plus a small profit element. The “norm” is USD 850 K for each project. Small business can win and run multiple projects in parallel. The SBIR analysis below is done for the UK Government in an attempt to copy and adapt it:



Government First: U.S.A.

The U.S. example – the **Small Business Innovation Research** program

- Established in 1982, it is the World's largest seed capital program for science and technology business.
- The law stipulates that 2.5% of all federal agencies' external R&D research must be done through SBIR. Furthermore, the US has established a very large set of policies to favor small US businesses in government procurement.



Government First: The European Union

The first program in Europe: **COST** – an international framework for European Co-operation in the field of Basic Scientific and Technical Research (www.cost.esf.org)

■ Established in 1971, COST allows the co-ordination of nationally funded research by maximising European synergy and raising the level of scientific interaction at the scale of Europe. Its budget for the period of 2002-2006 was of 1.5 Billion Euro.

■ **COST Actions cover basic and pre-competitive research. Ukraine as a Non-COST country took part in 15 actions.**

■ **From March 2006, Ukraine initiated consultation to discuss potential full membership.**

Number of Non-COST Participation 2005

Total number of participations in running Actions: 120 (incl. 5 NGO)



Government First: The European Union



EUREKA – an international framework for European Co-operation in the field of Marketable Scientific and Technical Research (www.eureka.be)

- The primary goal of EUREKA has always been to raise the productivity and competitiveness of European industry and national economies through its ‘bottom-up’ approach to technological innovation. Since its inception in 1985, substantial public and private funding has been mobilized to support the research and development carried out within the EUREKA framework.
- Through its flexible and decentralized Network, EUREKA offers project partners rapid access to a wealth of knowledge, skills and expertise across Europe and facilitates access to national public and private funding schemes.
- The internationally recognized EUREKA label adds value to a project and gives participants a competitive edge in their dealings with financial, technical and commercial partners.
- Through a EUREKA project, partners develop new technologies for which they agree the Intellectual Property Rights and build partnerships to penetrate new markets.
- Ukraine was granted full membership on 9 June 2006. Currently a total of 15 projects have been developed with Ukrainian participants for a total of 1.1 M. Euro.

Public Interventions

Mix of non-financial and financial support services

This means that intermediaries have to

- (1) provide value-added services; and**
- (2) become more professional**

Finding Innovation Funding Innovation
25 April 2007

**Access to finance for West
Midlands SMEs**

**Patrick Palmer – Head of Access to
Finance at Advantage West
Midlands**

What sort of initiatives are there?

▶ Demand side initiatives

- Provision of better information of what is available;
- Investment Readiness programmes.

▶ Supply side initiatives

- Grants to support Research and Development and certain "Proof of Concept" activity;
- The Research and Development Tax Credit;
- Grants for capital investment in certain areas;
- A range of venture capital funds;
- Encouragement of Business Angel activity;
- Small Firms Loan Guarantee Scheme;
- Community Development Finance Institutions.

Demand Side Actions

- ▶ **Better information**

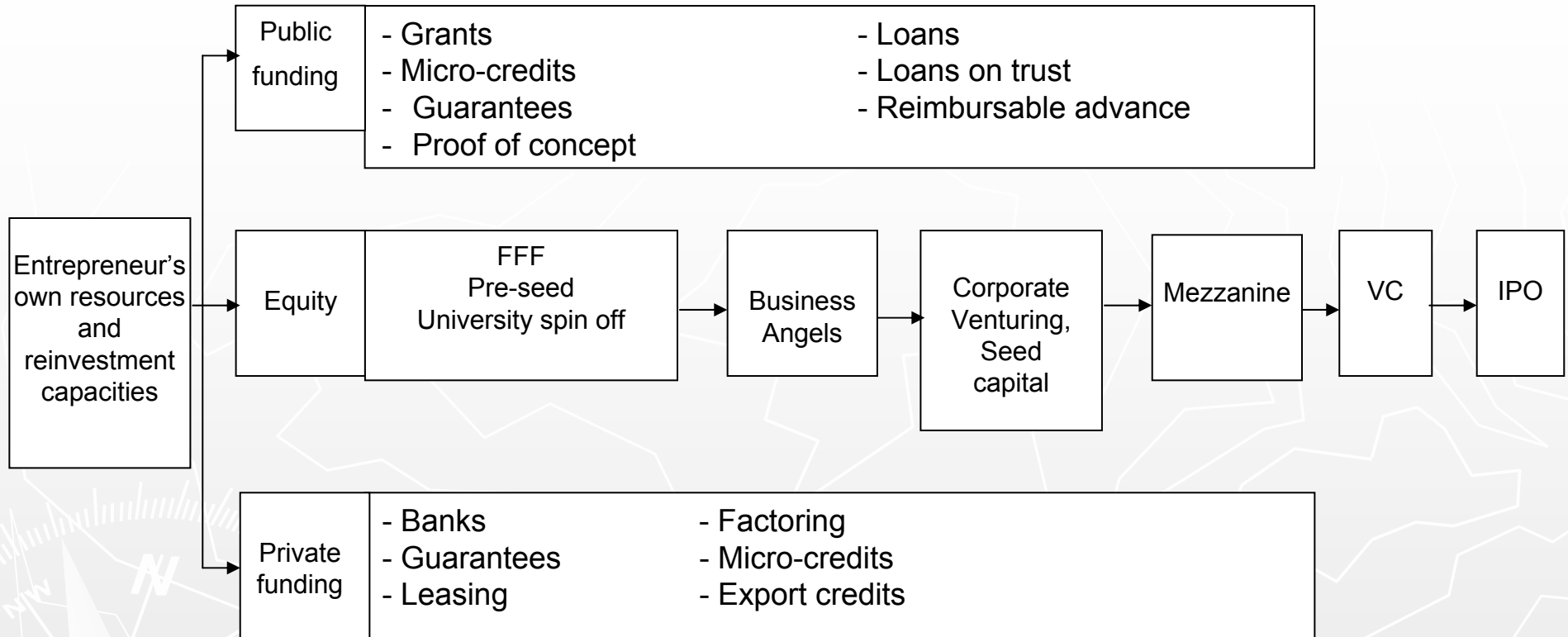
- www.westmidlandsfinance.com;

- ▶ **Investment Readiness programmes**

- **Route to Investment (R2i);**

- **CONNECT / InvoRed.**

Regional Financial and Equity Value Chain



Prerequisites

Risk taking investors:
private, public

Infrastructure:
business angels
networks, incubators, etc.

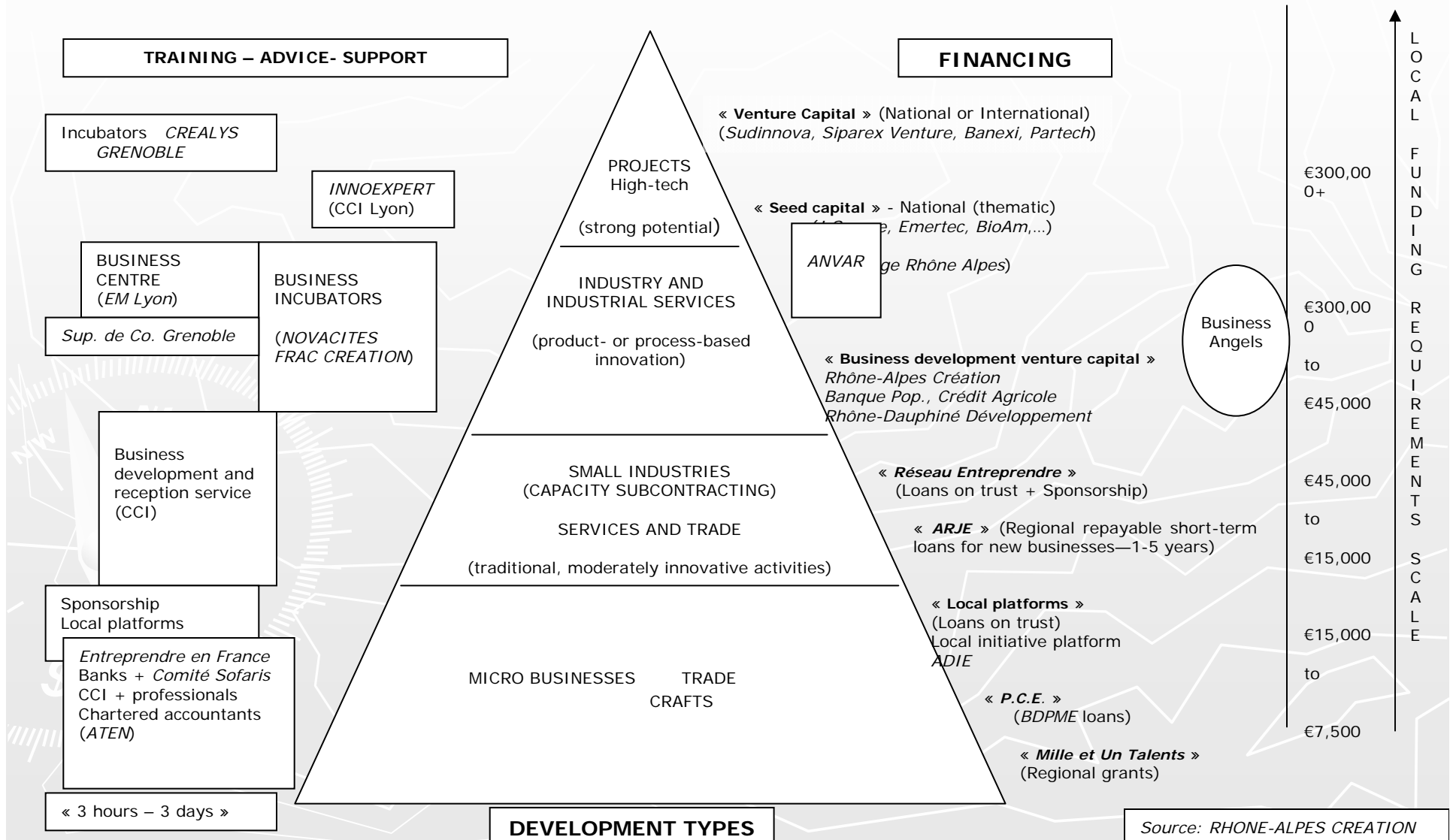
Intermediaries:
advice, investment
readiness, tutorship

Human capital:
professional fund
managers, state
aids experts

FFF : Family, Friends, Founders; BA : Business angels; VC : Venture capital; IPO : Initial Public Offering

Regions and Access to Finance

Case Study of the Rhône-Alpes (France)

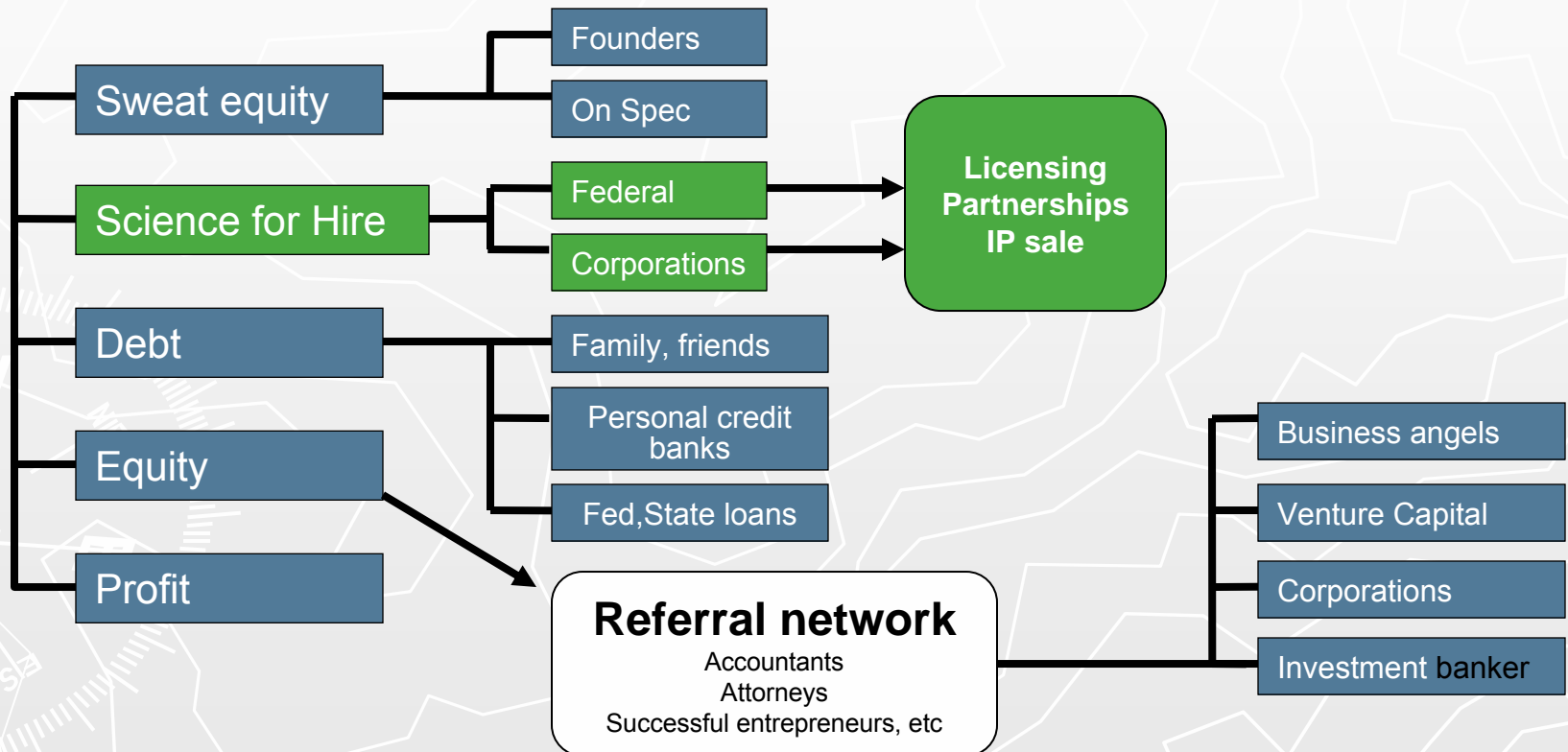


Case Study Wales (United Kingdom)

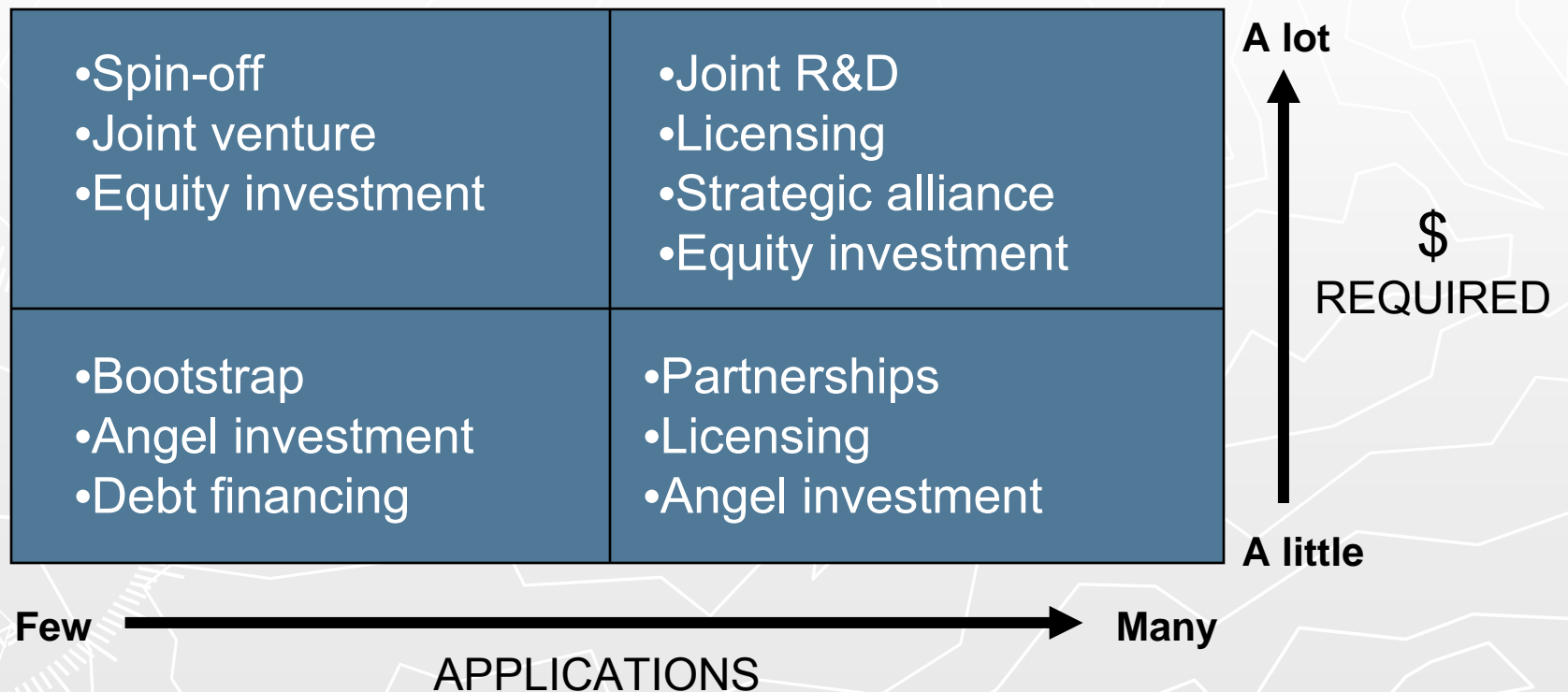
The region of Wales (UK) re-organised all its financial services around a single organisation called Finance Wales (www.financewales.co.uk) to provide the following financial services and products:

- ▶ **Community loans** amounting to US\$ 10.000 to US\$ 100.000 for the social economy
- ▶ Xenos: its **business angels network**
- ▶ Spinout: unsecured loans without interest of up to US\$ 50.000 for **university spinouts**
- ▶ **Venture capital**: up to US\$ 1.500.000 per financial pool and US\$ 3.000.000 in total
- ▶ **Mezzanine**: US\$ 20.000 to US\$ 800.000
- ▶ Loans: from **micro-credit** of US\$ 2000 to US\$ 20.000 to **loans** of up to US\$ 1.200.000

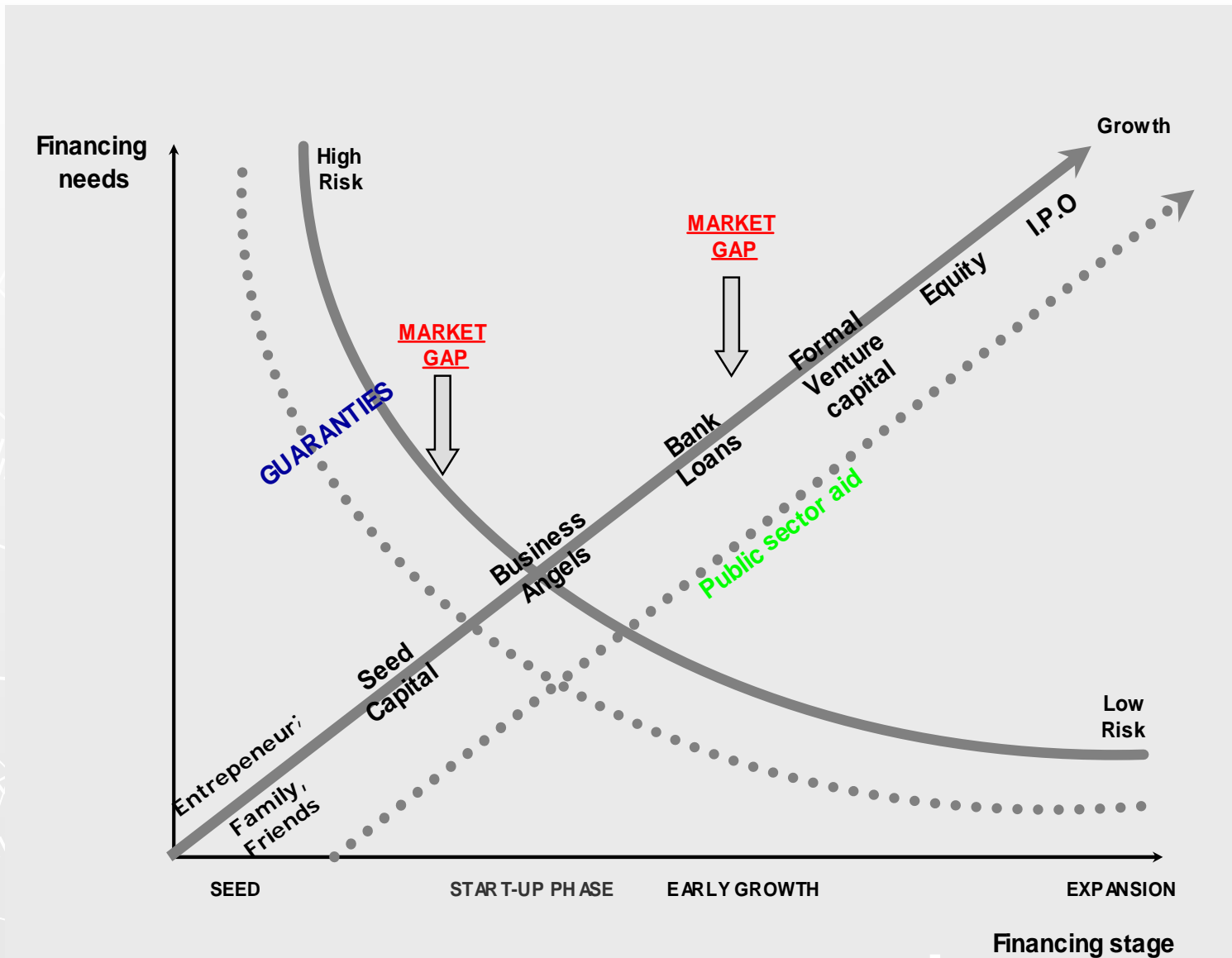
Roadmap to Financing Options



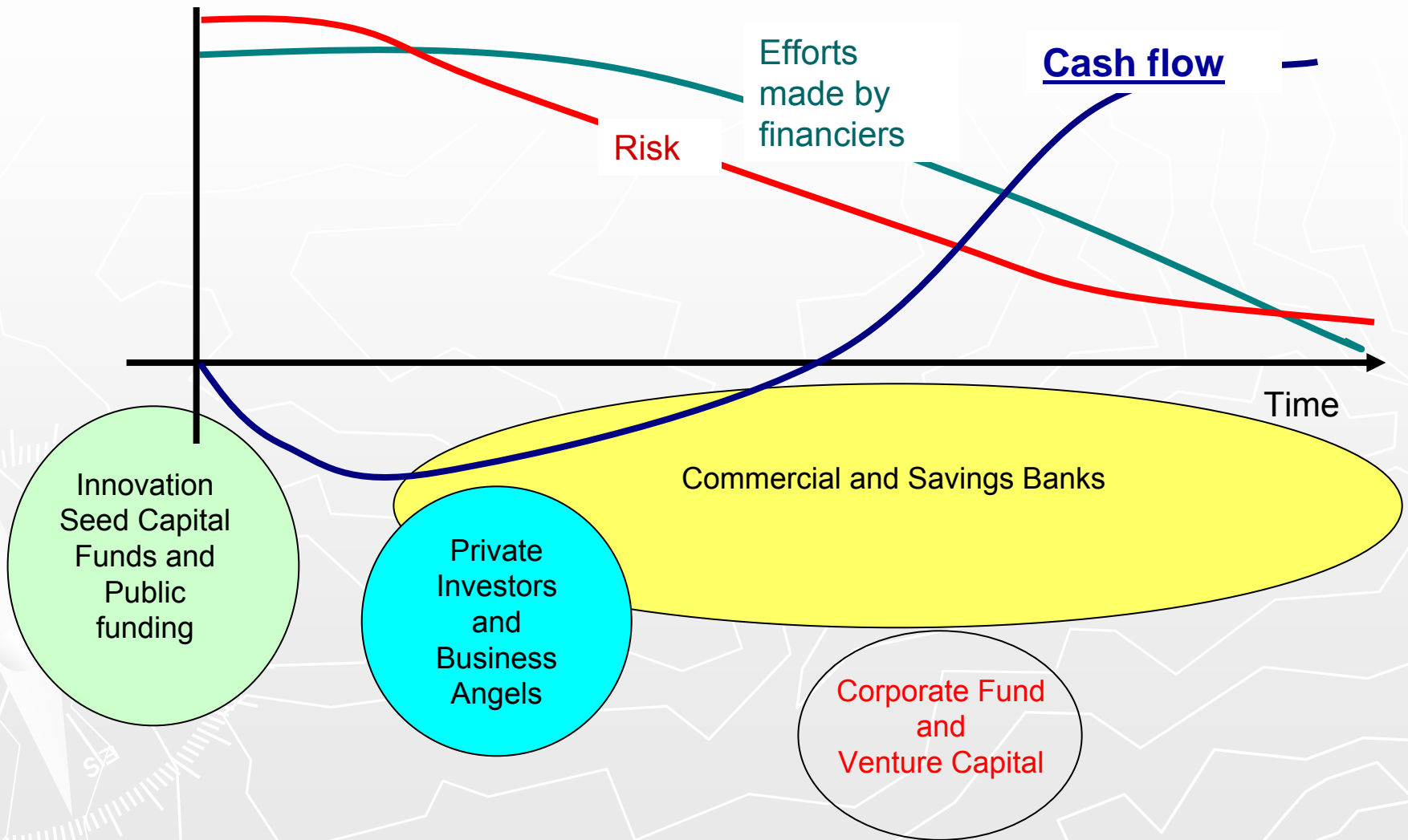
Financing Options as a Function of Application & Resources Required



THE ENTERPRISE FINANCING PROCESS



THE ENTERPRISE FINANCING PROCESS



Idea

Start-Up

Market introduction

Growth

Maturity

Transfer

THE ENTERPRISE FINANCING PROCESS

Stage in Cycle

R&D

Start-up

Early growth

Accelerating growth

Sustaining growth

Maturity growth

Type of Funding

Proof of Concept Funding

Seed Corn

First Round

Second Round

Development Capital

Replacement Capital
MBO / MBI
Development Capital

Source of Funding

Public Sector

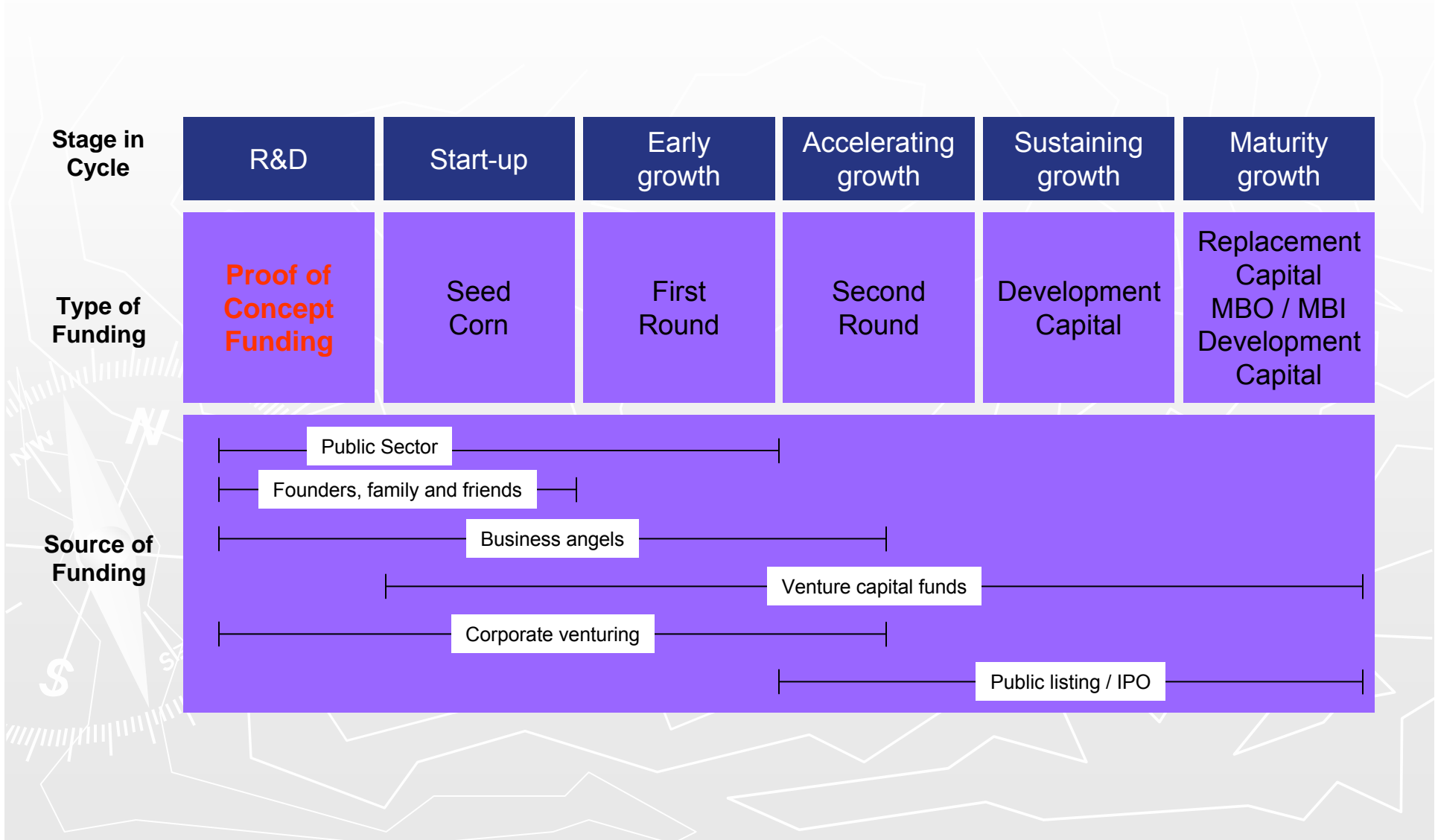
Founders, family and friends

Business angels

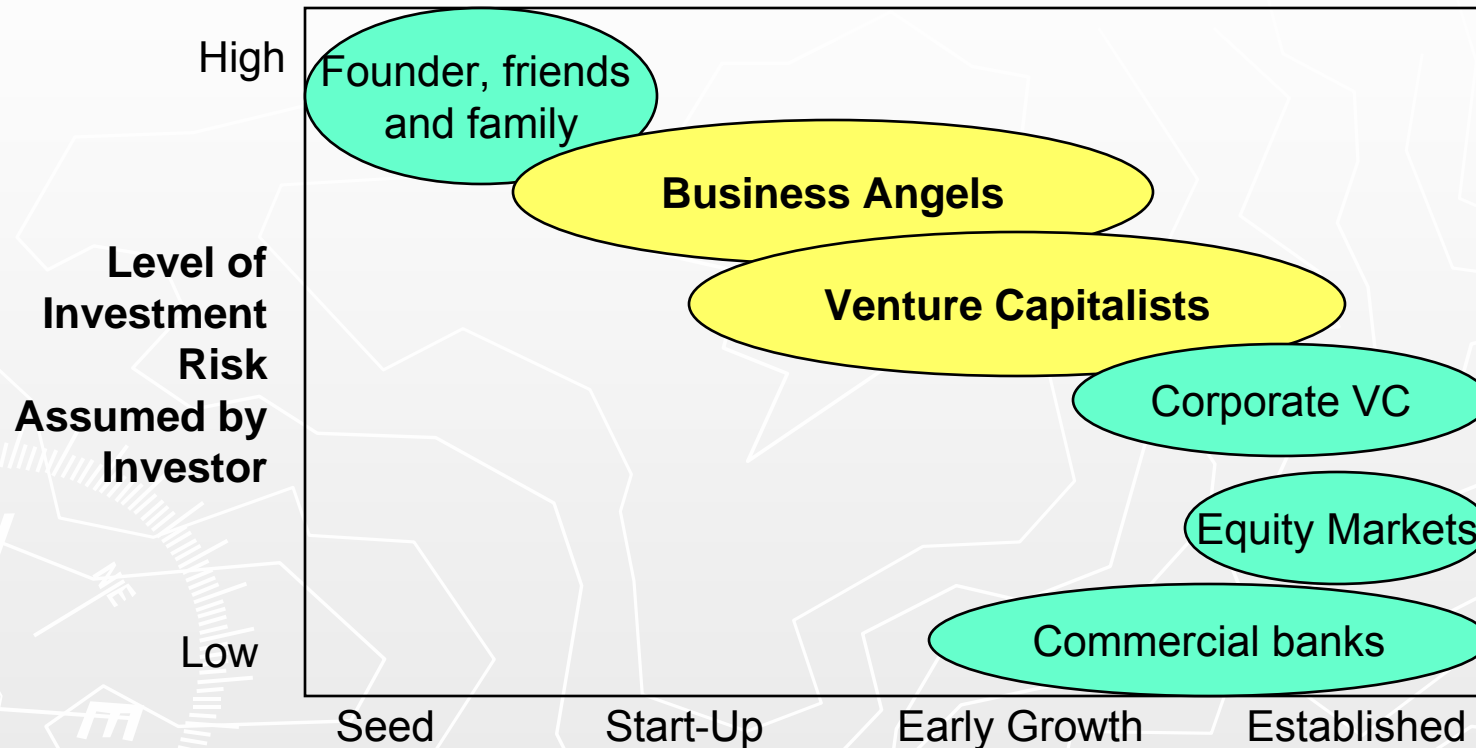
Venture capital funds

Corporate venturing

Public listing / IPO



Investment Continuum



* "Angel Investing"
Osnabrugge & Robinson

Angel market addresses the \$500K investment gap between love money and serious money

VENTURE CAPITAL (Formal & Informal)

▶ Institutional operators (formal venture capital)

- ▶ Private subjects
- ▶ Banks
- ▶ Insurance
- ▶ Corporate venture capital

▶ Non-institutional operators

(informal venture capital)

- ▶ Business Angels

FORMAL AND INFORMAL EQUITY PROVIDERS

	Business Angels	Formal venture capital
Personnel	Entrepreneurs	Investors
Firms funded	Small, early stage	Large, mature
Due diligence	Minimal	Extensive
Investment's location	Of concern	Not important
Contracts used	Simple	Comprehensive
Monitoring ex-post	Active 'hands-on'	Strategic
Exiting the firm	Of lesser concern	Highly important
Rates of return	Of lesser concern	Highly important

* Source: van Osnabrugge, 1998, p.2

FORMAL AND INFORMAL EQUITY PROVIDERS

VC

- Easy to find via directories
- Your request is only one among many hundred a VC receives
- Can often via syndication provide large investment
- Thorough and formal due diligence and investment process
- Exit route very important

BA

- Difficult to find
- Request often strong personal involvement
- Limited amount to invest
- Investment decisions often quick and less formal
- Syndication more and more usual
- Exit route less in focus

ANGEL STRATEGY

High-growth start-ups: *new businesses that are likely to see sales grow to around € 1M and employment to between 10 and 20 people in early years and export oriented.*

Key selection criteria of risk capital investors (generally):

- **New products or technological improved products in an existing market**
- **A product or service that can be taken to market without further development (i.e., past the initial concept stage)**
- **Creation of new markets**
- **Company's growth should be expected to be higher than market growth**
- **Increase of market share against competitors**
- **Superiority regarding competitors**

ANGEL DUE DILIGENCE PROCESS

Technology

Technology development
Product development
Process development
Product supply
Deliveries

Market

Marketing
Sales
PR
Competitors
IPR

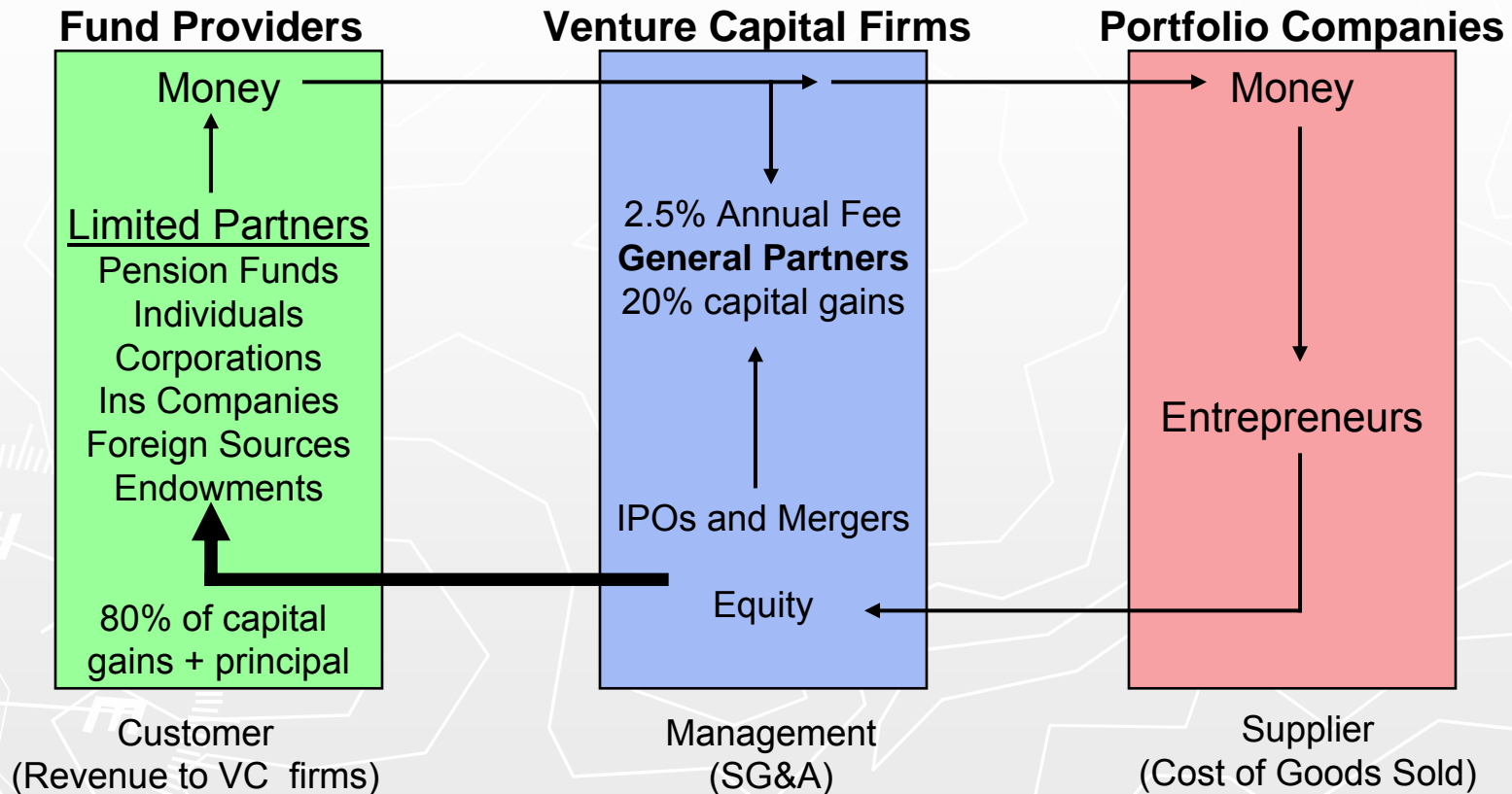
Organization

Recruitment
Board
Network of service suppliers
Office

Economy / Finance

Cash forecast
Finance activities
Cost estimate
Budget

Venture Capital Drivers



Venture Capital is a money distribution business where entrepreneurs compete for “shelf space” and where only 1 in 100 companies get funded!

What VCs are Looking for *Products*

- ▶ A novel biological or chemical hypothesis
- ▶ A well understood mechanism of action
- ▶ Proof of principle
- ▶ Significant unmet need
- ▶ **A strong IP position (both freedom to operate and power to exclude)**
- ▶ A strategy for partnering so that the risks associated with the timing of FDA approval can be passed on to someone else (although clear clinical endpoints are a plus)

Start-Up Pitfalls

Venture Capital Nightmares

- ▶ Undocumented commitments to co-founders or promoters who assist in arranging the initial round of financing
- ▶ Unconventional corporate or capital structures
- ▶ Equity arrangements that are not tied to future performance of services; everyone must have “skin in the game”
- ▶ A management team lacking a critical skill set
- ▶ An unwieldy or dysfunctional board of directors

Intellectual Property Pitfalls

- ▶ All of the investors/institutions have not assigned their rights to the university
- ▶ The university has not made patent filings on a timely basis in relevant markets for the technology
- ▶ The technology's inventors published their ideas prior to the filing of patent applications
- ▶ The claims of the filed patent applications are not broad enough to cover the intended application of the technology
- ▶ A non-infringement analysis (freedom to operate) has not been done

Intellectual Property Pitfalls

Why is this so important?

- ▶ Because universities typically provide
 - No representations or warranties
 - No indemnification
 - An “as is” transfer of rights to the underlying intellectual property
- ▶ This translates to increased RISK for the venture investor

Other IP Diligence Traps

- ▶ The original sponsor of the research retains “strings” restricting its commercialization
- ▶ The new company requires access to biological materials, information, or other technologies not covered by the license
- ▶ Only patents and tangible property can be licensed, not “know how”
- ▶ The inventor’s activities are limited by pre-existing, third party consulting agreements

Licensing Pitfalls

- ▶ Technology licensing arrangements that fail to contemplate the most likely business model and liquidity event
- ▶ Failure to study the university's income-sharing and conflict of interest policies
- ▶ Failure to adequately and appropriately incentivize the inventors/scientific founders
- ▶ Inability to have input on patent prosecution and intellectual property strategy for licensed technology

Thank you for your attention!

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