



**Fifth Advanced Research Forum on Intellectual Property Rights;
Selected Topics on the Balance of Intellectual Property**

**Innovation, Intellectual
property and Financing**

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Partially Adopted by IP4INNO II

“Knowledge to market”

Italy
Spain
Slovenia
Poland
Hungary
Czech Republic
Latvia
Estonia
Lithuania
Bulgaria
Belgium

Romania
Greece
Cyprus
Malta
Albania
Tunisia
Argentina
Dominican Republic
Haiti
India
Usa....



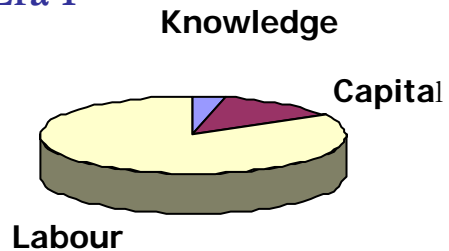
“Knowledge to market”



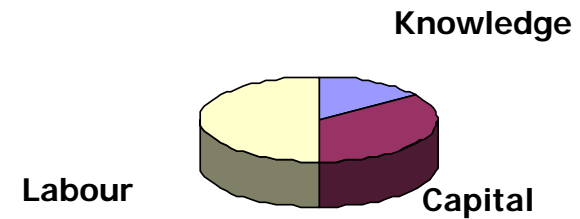
The dimension where this process takes physically place is **regional** ...

Knowledge economy

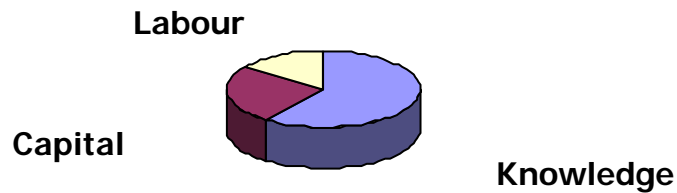
Pre-Industrial Era 1



Industrial Era 2



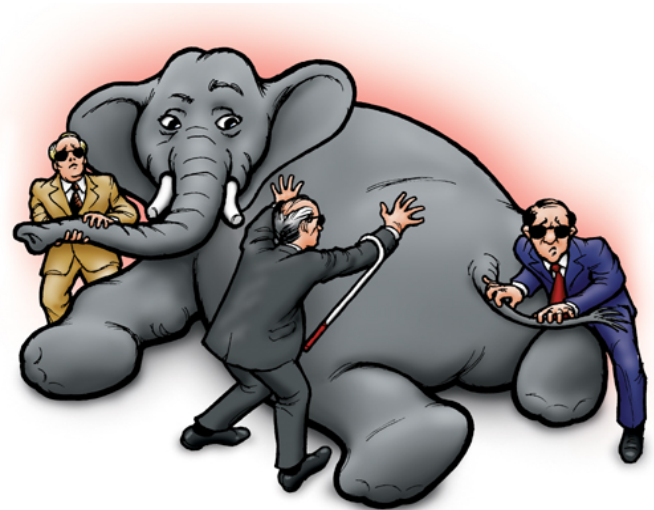
Knowledge Driven New Economy 3



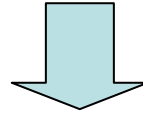
internet benessere **ricerca** avanzamento **miglioramento**
tecnologia informatica **computer** scienza futuro città Spagna
università **progresso** conoscenza **evoluzione** scoprire **novità** modernità
mondo **innovazione** positivo negativo necessità **cambiamento** studio energie
nuove tecnologie cosa invenzione **vita** telefono tecnologiche oggi fabbriche studiare
sviluppo scoperta condizione uomo libri continuo scientifica cercare scuola industria
inventare **cambiare novità** persone moderno studi beneficio scoperte importante
elementi negativi modernizzazione applicazione **cultura elettronica** dietro passato positiva prima
rinnovare energia fibra ottica scientifiche **tecniche** investimenti novità ammodernamento
moderna modifiche progredire sapere rinnovarsi necessaria adeguamento persona rivoluzione
rinnovamento lavoro andare avanti imparare **aggiornamento** sperimentazione
cambiamenti modernità informazione continua **innovazioni** passe elettronica idee
scoperte e crescita **capire** su cosa diretto tecnologie nuove parole medicina fare progetti idee

**Innovation ~ R&D; information technology,
technology development; invention, knowledge,
talent**

It seems that the efforts, to reduce to a single definition a domain so vast such as the innovation, look like the history of the “Blind men and the elephant” ...



The innovation is based on the use of the explicit knowledge (codified) and **tacit** knowledge (not codified and not transmitted), ability and **expertise** gained through learning by doing...



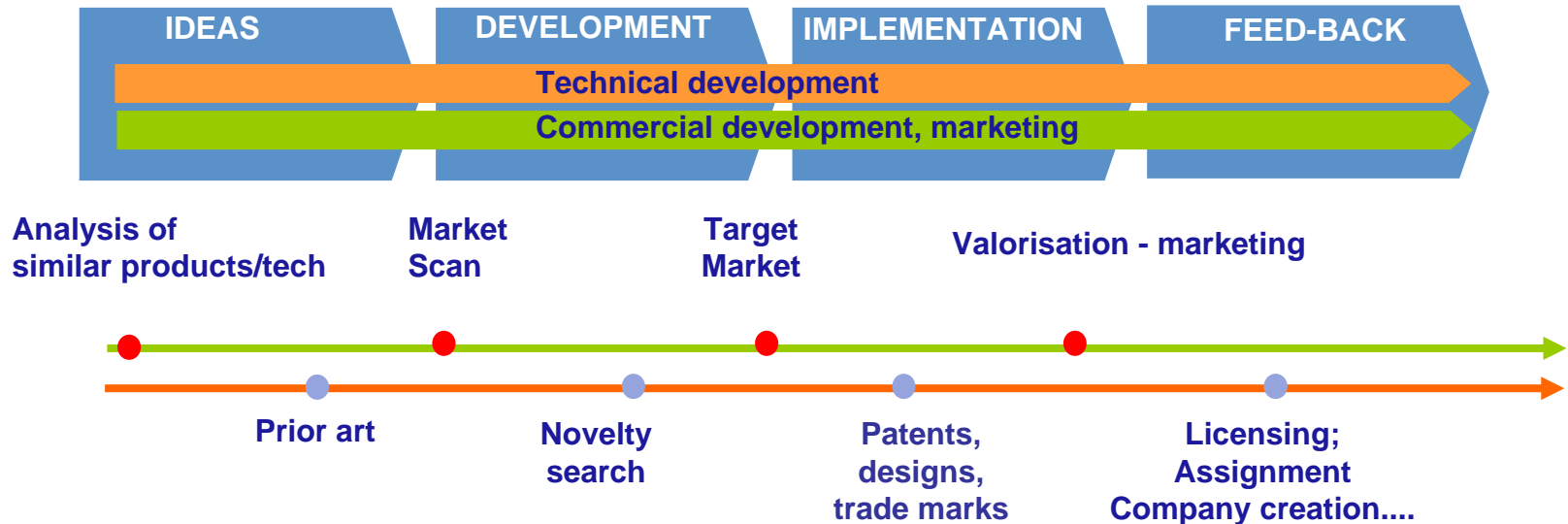
Intellectual Capital

... Learning is an experience; everything else is just information.

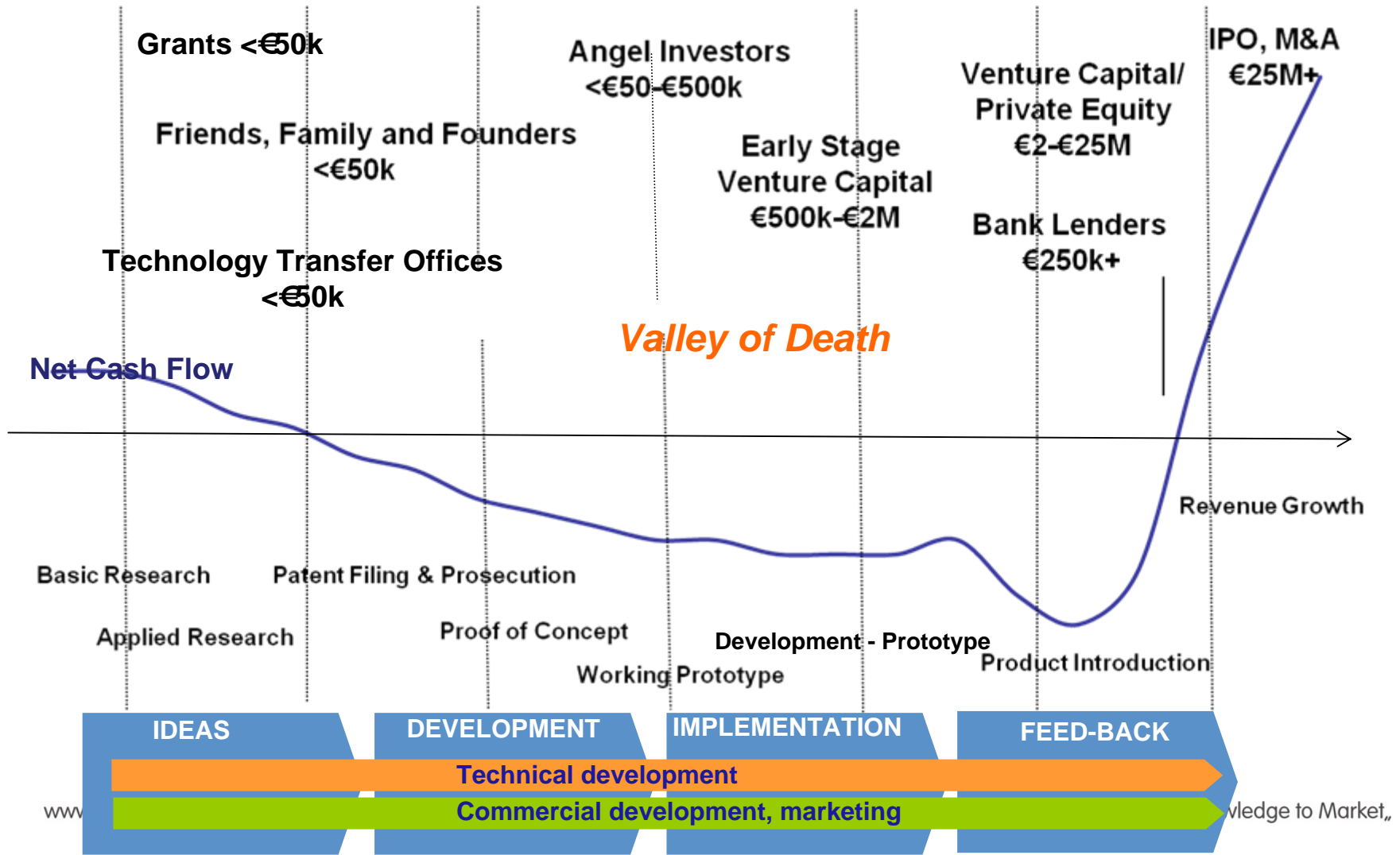
Why does finance have to do with Innovation and intellectual Capital?

- o **It costs money to develop knowledge based solutions**
- o **Most people do not have this money in their pocket so they have to raise it**

... so innovation process



IP Financing Lifecycle



Early stage – high risks

- According to a study, on average it takes starting 3000 raw ideas to make 1 economically profitable new product
- Same study claims, on average 4 to 100 completed R&D projects originate one commercial success
- Highest project mortality is at earlier stages

To identify the proper **exploitation model** (equity based model or Licenced based model) the following topics should be taken into consideration: the market **potentials, skills and expectations** of the knowledge owner.

An error in the exploitation model result of the research can lead to frustration, do not allow the full capitalization of the knowledge produced ..

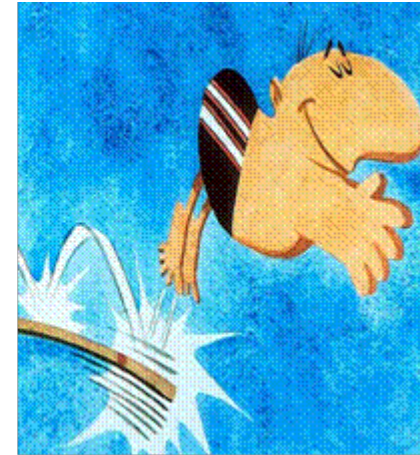
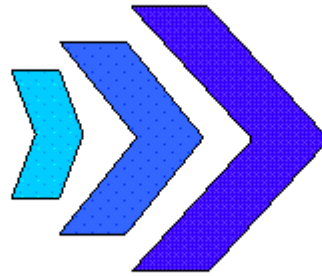
Knowledge Intensive Companies (KICs)

KICs are small in numbers but cover a critical role

- o strongly affecting employment
- o playing an increasingly active part in Global Markets and Value Chains: initiators

A matter of culture:





Awareness raising

Scouting

Business shaping

Start up

Acceleration!

Knowledge Intensive companies

- o **Employment: in USA young companies generated roughly 2/3 of job creation, and fast growing young firms (less than 1 percent of all companies) generate around 10 % of new jobs in any given year**
(source Reports of Kauffman Foundation)
- o **Dynamism of the economy: Nokia alone has changed Finland physiognomy and perception**
- o **75% of Fortune 500 did not exist 25 years ago**

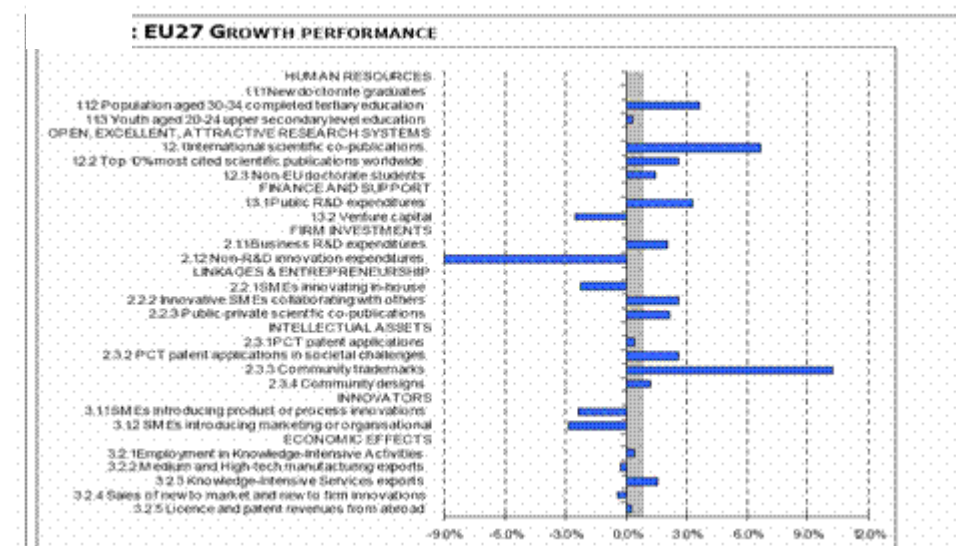
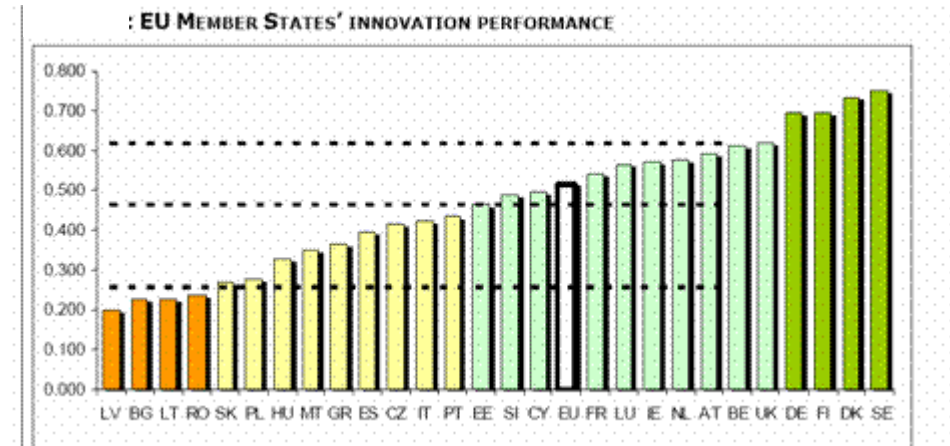
Main "issue"

Research (knowledge) + Finance = Innovation ?

What are the ways and means to enhance cooperation between research and finance in order to efficiently support innovation?

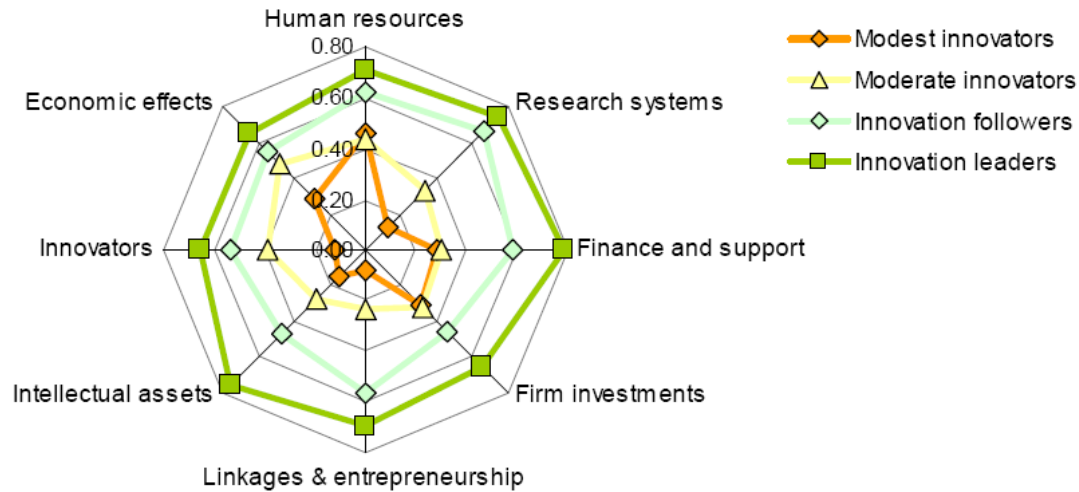
V/S

What are the ways and means to enhance cooperation between entrepreneurs, research(ers) and finance?



Source: Innovation Union Scoreboard 2010

COUNTRY GROUPS: INNOVATION PERFORMANCE PER DIMENSION



Source: Innovation Union Scoreboard 2010

It is important to understand that all forms of finance do not have the same aims.

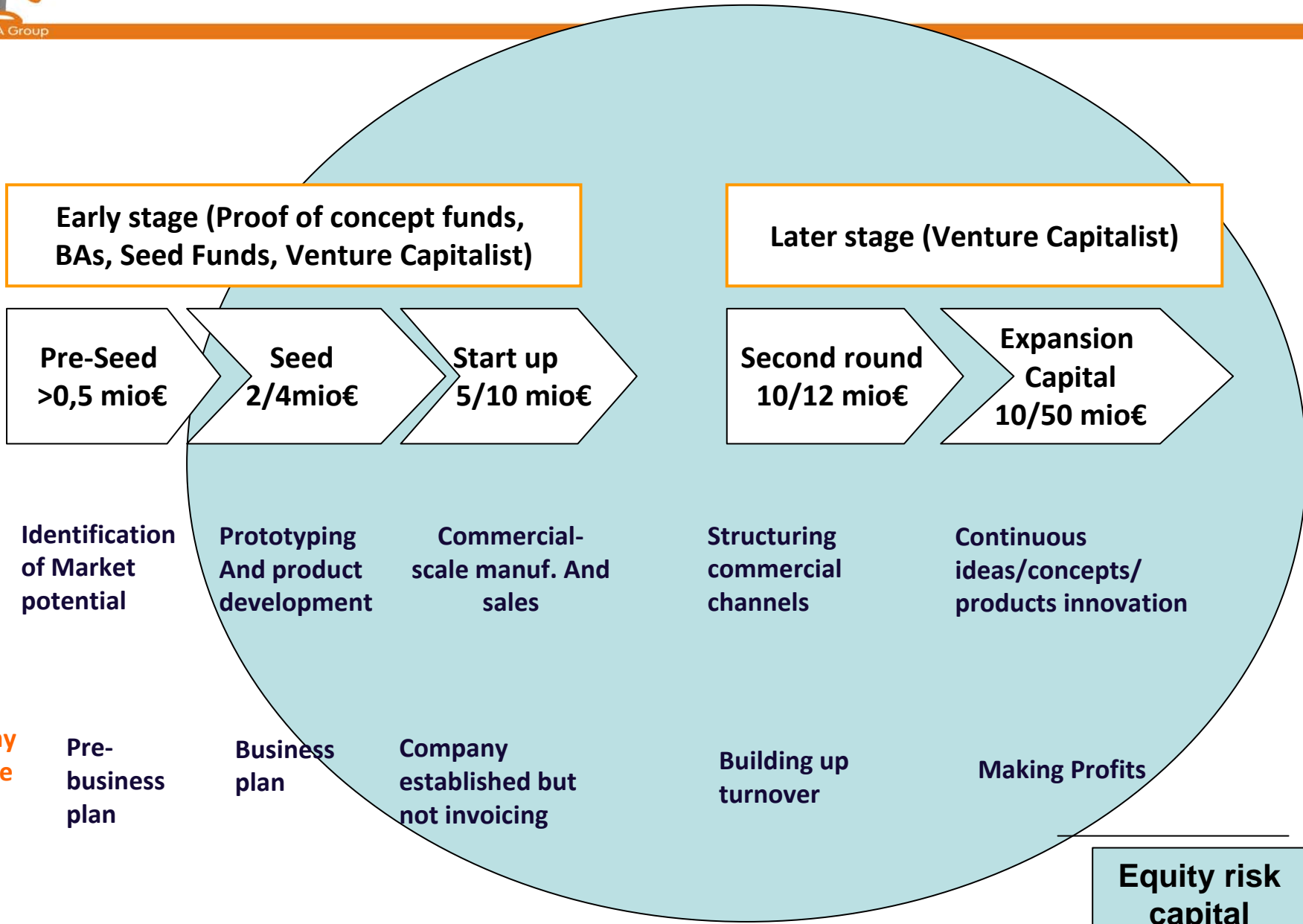
Motivations, expectations and criteria of different funding parties will vary according both to the life cycle of the business idea and the related level of risk perceived.

This explains the Anglo-Saxon expression « **All money is not the same** ».

Entrepreneurs need to have an understanding of the type of finance fitting best to the position of the enterprise in its life cycle.

The enterprise finance market can be divided in 5 segments:

- I Initial and unorthodox sources of funding;
- II Equity;
- III Debt finance;
- IV Combination of equity and debt
- V Public Finance



Financial tools (early stage financing) for knowledge based start ups

- o Proof of concept funds
- o Business Angels
- o Seed funds

Early stage investors – evaluation approach

Proof of concept

- o Innovativeness (+)
- o IPR - Valorisation of research results
- o Entrepreneurial spirit

Early stage investors – evaluation approach

Business angels

- Atmosphere of trust between individuals and positive feeling, confidence (+)
- Possibility of hands on intervention
- Credible business plan in the eyes of the Business Angel
- Availability of exit route
- Return on investment (capital gain)

Early Stage Risk Capital



Source: META Group

Early stage investors – evaluation approach

Seed capital funds

- o Team (+)
- o Clear Business model
- o Intellectual capital
- o Growth potential (High) - international dimension of market
- o Availability of exit route
- o Return on investment (capital gain)

IC Readiness of intangibles in KICs

What, we, investors look for is the intellectual capital (explicit + tacit knowledge) strategy:

- o Monitoring of competitive products/technologies/patents
- o Correctly employing the legal tools in protecting products/technologies and know how
- o Ensuring key resources (including people) are available, valorised and protected

IP protection will augment early stage investors' interests by providing further, strong, guarantees on future returns on investments!

- Approaches in valuation of IP
- IP valuation in seed capital deals
- Case studies in high-growth sectors

IP valuation: why & What do we Evaluate

Why : Because I.P. could be significant element of market competition

- What:**
- Patents and utility models
 - Trade Marks and design
 - Copyright
 - Know How & other unregistered I.P.

more IP Valuation

When Valuing Intangible Assets?

- **Sale or license of patents (and related Know-How)**
- **Bank loan or financing secured by intangible assets**
- **Mergers and acquisitions**
- **Joint-venture creation and company's valuation**
- **Equity investments**
- **Reward researchers**
- **....**

What to be considered

1. **People**
2. **Market**
3. **Products**
4. **Technology**
5. **Legal**
6. **Buyer/seller**

People

- **Entrepreneurial spirit/Commitment**
- **Expectations/objectives**
- **Expertise/know how**

The Market

- **Does the IP owner knows the market (market potentials, demand need, competitors...)?**
- **Is the IP owner familiar with the target markets?**
- **Does the owner know how to access the target markets?**
- **Is he/she able to face effectively the new situation?**

The Product

- Does the potential products address to a market need?
- Distinctive elements?
- Does the IP owner the needed competences for implementing/manufacturing those products?
- Does he/she have a reputation for it ?
- To what extend the new products affect our firm? (for Smes)

The Technology Characteristics

- **To what degree is the technology developed**
- **Scalability?**
- **Are we dealing with a break through Technology or not? Is Know how needed?**
- **Is buyers infrastructure & Equipment related to the new technical needs**

Type of Technology and Know how

- **Is the patent innovative or an improvement?**
- **Product or process?**
- **What know how is needed to further turning the knowledge into a product?**
- **R&D costs involved (past) and future?**
- **Testing phase?**

Legal

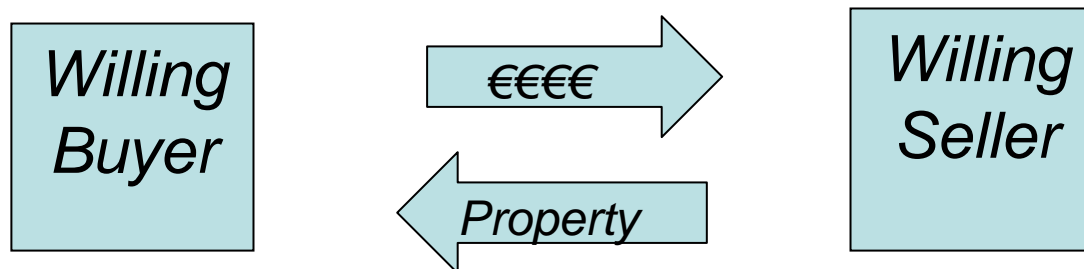
- **Other I.P. involved? (Freedom to operate)**
- **Expiration date of I.P.'s**
- **Are the I.P.'s already granted ? In Which Territory?**
- **Are the I.P.'s independent or not?**
- **Know how protection? Key people?**

Buyer/seller ability

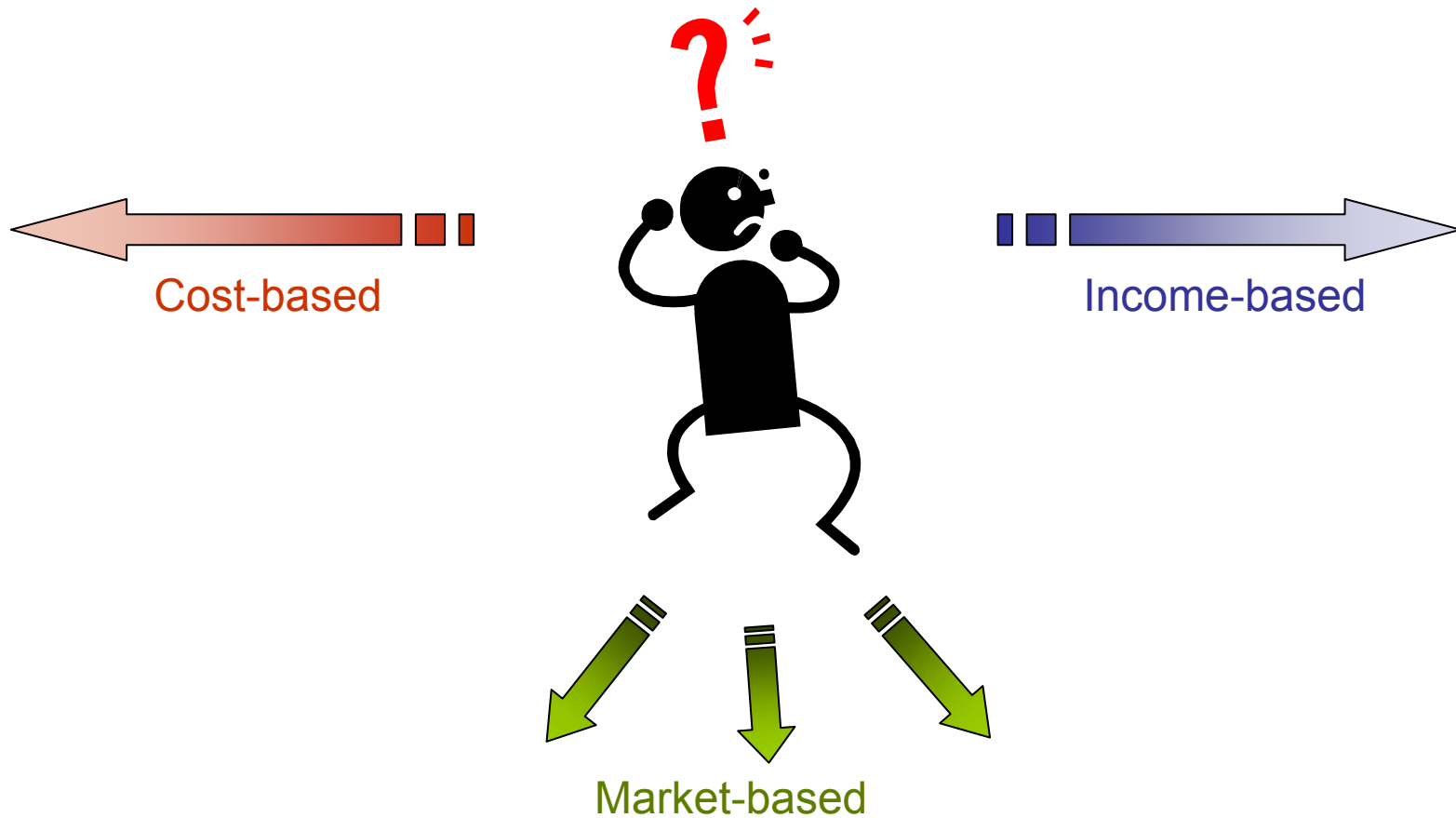
Exchanging or acquiring a license means a long cooperation between licensor and licensee during the “transition” period are the companies able to communicate and cooperate adequately?

Fair Value – the first brick

The price that property changes hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell, and both having reasonable knowledge of relevant facts



Overview of the Different Methods



IP Valuation Methods

- o **Cost based methods**
- o **Income based methods**
- o **Market based methods**

Cost-Based Methods

a) Capitalization of Historical Costs

- o How much was spent to develop technology
- o Problems:
 - o R&D costs are difficult to count (Which personal costs? over which period of time? Including failures?)
 - o How to take into account inflation
 - o Cost \neq patent value

Cost-Based Methods

b) Replication / Replacement Costs

- o Value of total costs to replace or re-create similar technology that may already exist
- o Value paid \leq cost of re-developing it
- o For the buyer:
 - o avoids development effort
 - o minimises risk
 - o Avoids costs related to a delayed market entry

Income-Based Methods

Definition

IP Value

=

Ability of Technology to
Generate Future Income

Fair Value of Patent = Present Value of the expected future income (cash flow) stream

Three key parameters:

- 1. Amount of the income stream**
- 2. Duration of the income stream**
- 3. Risk associated with the realization of the income**

Market-Based Methods

Definition: value is based on the transactions of other purchasers & sellers in the marketplace

- o Licensee/buyer is not willing to pay more than others have paid for similar IPRs
- o Fair value of a patent = Price paid in comparable, “arm’s length” transactions

- Approaches in valuation of IP
- IP valuation in seed capital deals
- Case studies in high-growth sectors

Intellectual capital Vs Intellectual property

- o Intellectual capital (IC) due diligence is part of a comprehensive due diligence audit
- o When done properly, IC due diligence provides detailed information that may affect the price or other key elements of a proposed transaction or even aborting the further consideration of the proposed transaction.
- o When done on behalf of a third party is called IC audit

- (i) to assess the risk of entering into the transaction by obtaining sufficient information about the business operations and competitive position of the Target before proceeding with the transaction
- (ii) to assist in establishing (and negotiating) the purchase price
- (iii) to determine the that the Buyer may require of the Target in the transaction agreement.

Terms & Definitions

Equity means ownership interest in a company, represented by the shares issued to investors;

Quasi-equity investment instruments' means instruments whose return for the holder (investor/ lender) is predominantly based on the profits or losses of the underlying target company, are unsecured in the event of default.

Terms & Definitions

Risk capital means equity and quasi-equity financing to companies during their early-growth stages (seed, start-up and expansion phases), including informal investment by business angels, venture capital and alternative stock markets specialized in SMEs including high-growth companies

Terms & Definitions

Early-stage capital means seed and start-up capital;

Seed capital means financing provided to study, assess and develop an initial concept, preceding the start-up phase;

Start-up capital means financing provided to companies, which have not sold their product or service commercially and are not yet generating a profit, for product development and initial marketing;

Terms & Definitions

Expansion capital means financing provided for the growth and expansion of a company, which may or may not break even or trade profitably, for the purposes of increasing production capacity, market or product development or the provision of additional working capital;

Source: Community Guidelines -2006/C 194/02

Terms & Definitions

Venture capital means investment in unquoted (not listed on the stock exchange) companies by **investment funds** (venture capital funds) that, acting as principals, manage individual, institutional or in-house money and includes early-stage and expansion financing, but not replacement finance and buy-outs;

Buyout means the purchase of at least a controlling percentage of a company's equity from the current shareholders to take over its assets and operations through negotiation or a tender offer;



Thank you for the attention

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