Envimpact

SPIN-OFF Business Models

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THE BRUSSELS ENTERPRISE AGENCY

ENVIMPACT Project Training

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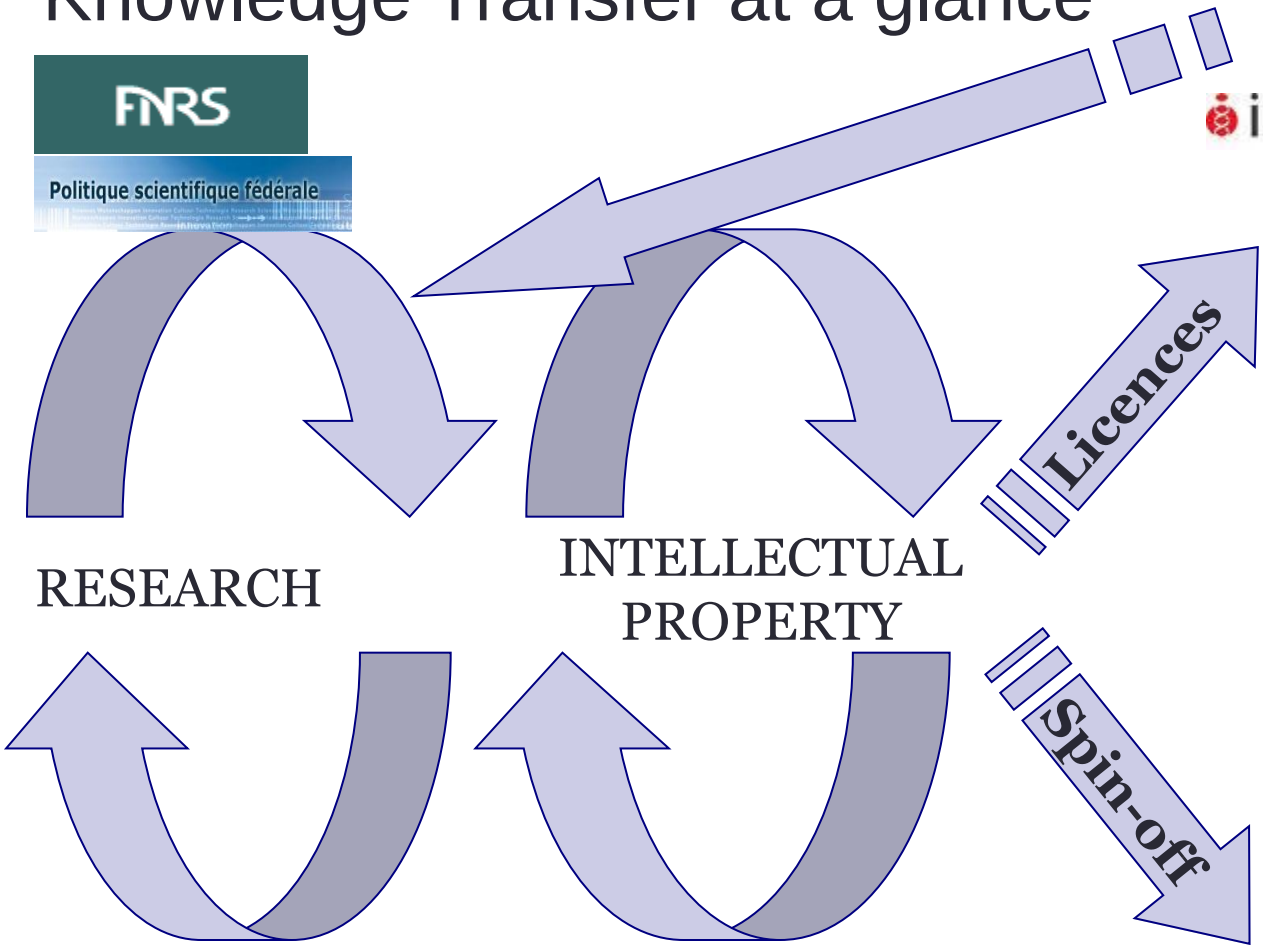
Agenda

- Knowledge Transfer at a glance
- Spin-off creation
  - Research
  - IP
  - Proof-of-concept
  - Business Plan
  - Licensing
  - Fund Raising
- Innovation Trends

An Introduction to Knowledge Transfer

SEVENTH FRAMEWORK PROGRAMME

Knowledge Transfer at a glance



FNRS

Politique scientifique fédérale

Ipsogen CancerProfiler

invitrogen

hp invent

nolink

Aliwen

DECIS

henogen
From gene to clinical product

HERITAGE MANAGEMENT SERVICES

DNA VISION

lambda-X

DELPHI genetics

EUROSCREEN

Harlan
BV TRANSGENIC SERVICES

EHP Euro Heat Pipes

BRUCELLS

MICROMEGA DYNAMICS

Optimal Design

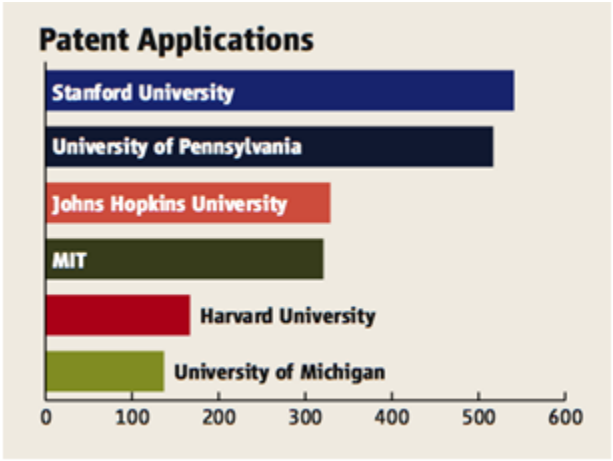
MENTIS
bringing intelligence to your business

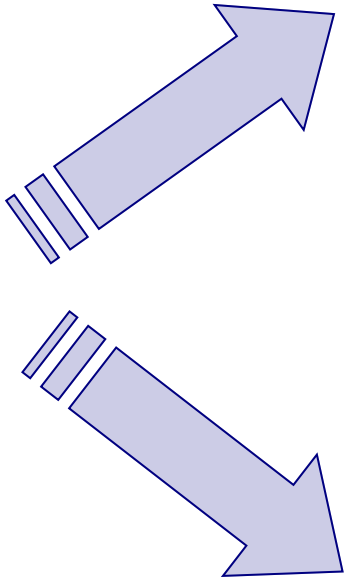
SEVENTH FRAMEWORK PROGRAMME

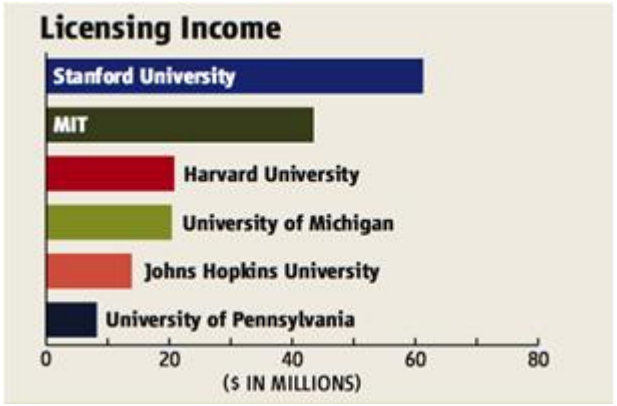
SeQuR
Security by Quantum Randomness

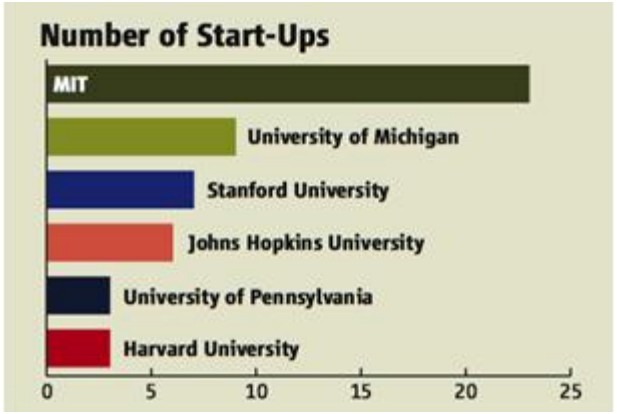
RÉGION WALLONNE

Top universities are top value creators but their strategies differ









Universities protect *Intellectual property* (IP) essentially through patents

Lawler A, University research. Steering Harvard toward collaborative science, Science, Jul 2008

Spin-off creation

SEVENTH FRAMEWORK PROGRAMME

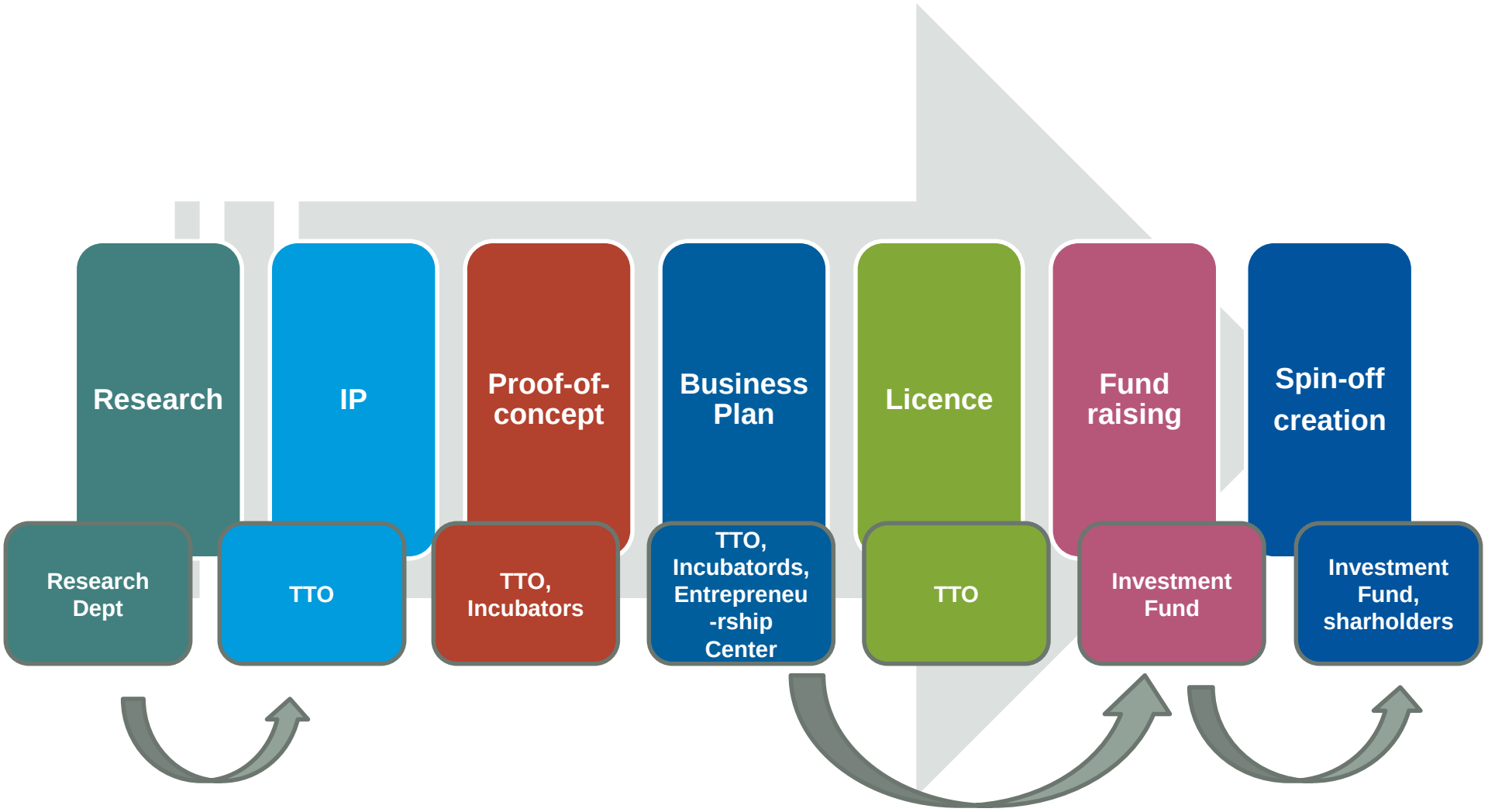
Various kind of spin-off projects ?

D-SIGHT®

INSILICO
GENOMICS AT YOUR FINGERTIPS

HERITAGE
MANAGEMENT
SERVICES

Process & Main Actors



Research

- At the beginning, an idea … wheter the research is applied or not

⇒Evaluate the opportunity (with the TTO)

- Is it a product, a service ? What is the market need ?
- Can you protect your idea ?
- What human ressources (& skills) do you need for the project ?
- What are the financial ressources you need and you can access ?

IP Protection

Intellectual Property Protection

- Various types of intellectual property rights : patents, brand, software protection, authorship, …
- Why apply for a patent ?
- University owns the IP rights, inventors are named
- « Three third » rules
- Getting IP rights is compatible with publication ! One constraint : protect before disclosure

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CONNECTING RESEARCH & BUSINESS

Patent Procedure

Prior Application	International Application	Publication	National Phase Entry	
0	12	18	30	60+

Patentability :
- novelty
- inventive step
- industrial application

Prior Art
Freedom to operate

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Proof-of-concept

- There often exists a gap entre beteween an « academic » proof-of-concept and a first « industrial prototype » et une version « industrielle » => lower the industrial risk.
- Collaboration with an existing company
- Financing …

Proof-of-concept definitions

- *"An approach used for demonstrating immediate business benefit, proving feasibility and critical aspects of a solution, and to demonstrate value to the business. The proof-of-concept has a well-defined scope and set of objectives."*

- *"A proof of concept is a short and/or incomplete realization of a certain method or idea(s) to demonstrate its feasibility. The proof of concept is usually considered a milestone on the way of a fully functioning prototype."*

- *"The proof-of-concept is defined as evidence that demonstrates that a business model or idea is technically feasible and economically viable."*

- *"The proof of concept allows the development of intellectual property to take place in a way which extends protection of that property; which extends applicability of that property: which improves confidence in its anticipated commercialisation; which underpins the validity of its claims and which demonstrates value. It is still some way from"market" and "job creation" but fills that vital gap between early "blue sky"research and market exploitation."*

What is the Innovation Gap, and what causes it?

In a perfect world, strong technological concepts would always evolve into commercial reality. But that ideal is relatively rare. Several obstacles make it difficult for valuable emerging research to transition out of the laboratory and into the marketplace:

- ***Fear of risk***. Even if a new technology addresses a market need, a level of risk remains around implementation, which can prevent VCs and companies from participating. Today, especially, investors demand relatively low-risk opportunities, and require proof-of-concept -- and sometimes even customers -- before they are willing to sign on.
- ***Reduced funding***. Economists generally agree that technological innovation has accounted for more than half of America's economic growth since World War II. But US federal spending on basic and applied research has fallen significantly (by 12% as a share of GDP between 1993 and 1997). Additionally, many companies are responding to the growing pressure for short-term returns to stockholders, rather than investing in long-term research.
- ***Financial limitations on small businesses***. According to the Small Business Administration, America's 25 million small businesses account for 55% of America's innovations. But by their very definition, these companies have limited resources for identifying and promoting untested technology.
- ***Disconnect between academia and marketplace***. Universities owns thousands of pieces of intellectual property, and thousands of companies can trace their roots to Universities-spawned innovation. However, most faculty are necessarily focused on their disciplinary research, rather than commercialization, limiting the likelihood that their innovations will make it to the marketplace.

Example : Hardware IP based case

Ground breaking technology for secret key generation based on the laws of quantum physics.

Laboratory experiment fully demonstrated

The technology is used to solve emerging problems in cloud computing.

In contrast to software, hardware development requires much more resources.

Potential customers are sceptic without a testable industrial version appliance …

… Potential capital “risk” investors require LOIs before injecting money.

Solution: Ask for proof-of-concept funding

Funding the entire prototype is too costly

Instead, we manage to finance the “core” of the appliance while the team prospects potential customers with an downgraded OEM version based on competitor’s technology.

Négociation de la licence

Negociate a licence

- License : contract thar allows the future spin-off company to exploit commercially the invention
- Transfert de le technologie de l'ULB ➔ spin-off
- Can last several month

License Negotiation

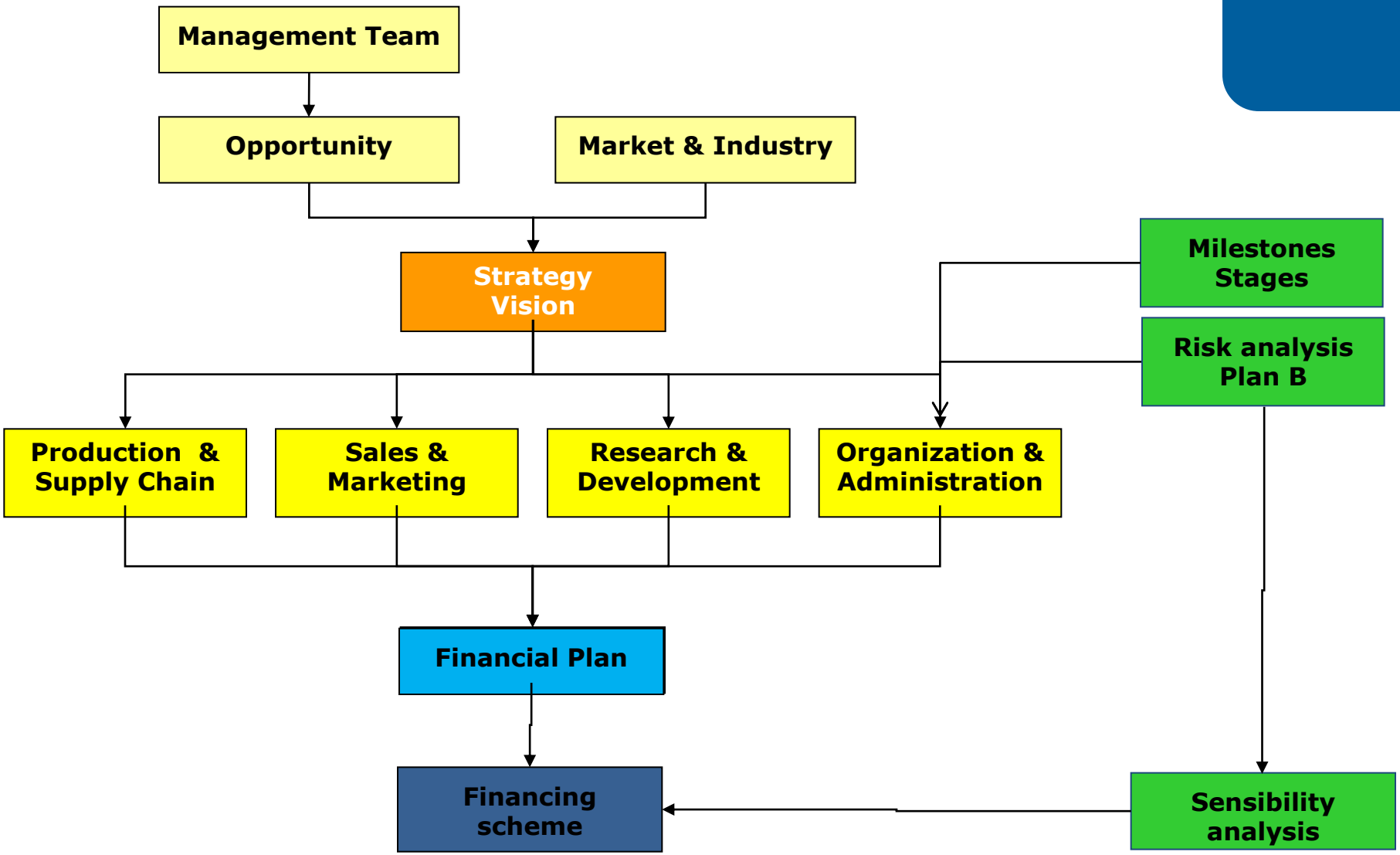
License contract

- Non financial terms:
  - Domain
  - Exclusivity or not
- Financial terms :
  - Upfront
  - Milestones
  - Royalties
- Three third rule

Valorisation comitee Decision

The Business Plan

Business Plan



Solvay Brussels School Economics & Management
Entrepreneurs

The Perfect Business Plan?

- A dream team: capable, experienced, committed, adaptable and trustworthy
- A unique offering with a proof of concept
- An in-depth market research section (i.e. incl. demand, industry and competition)
- Focus on one niche market and a strong Sales & Marketing plan
- Focus on the core business
- Ambition and realism
- Clear milestones
- Ready for execution
- Strong governance
- Risks analysis and Plan B included
- Financial plan based on a limited set of benchmarked assumptions
- Keep it simple

Investors will add:

- Fast and scalable business model
- Clear exit strategy

Business Model Generation

Key Partners 	Key Activities 	Value Proposition 	Customer Relationships 	Customer Segments 
	Key Resources 		Channels 	
Cost Structure 		Revenue Streams 		

Fund raising

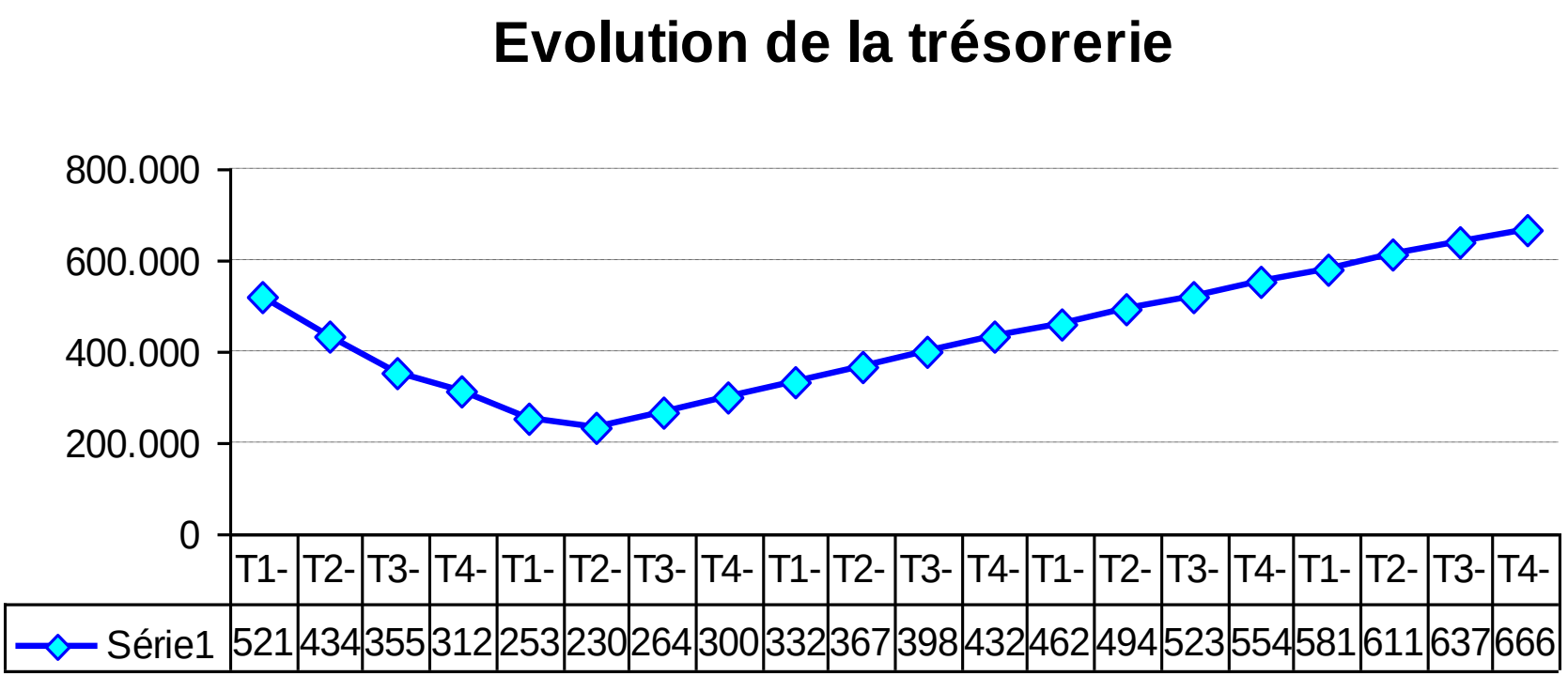
Raise Money

- The financial plan will help you to evaluate (amon others) :
  - How much money (& time) you need to reach the break even ?
  - How much do your project worth ?

=> These are the basics to go to Investors

Typical curve

(Financial Plan)

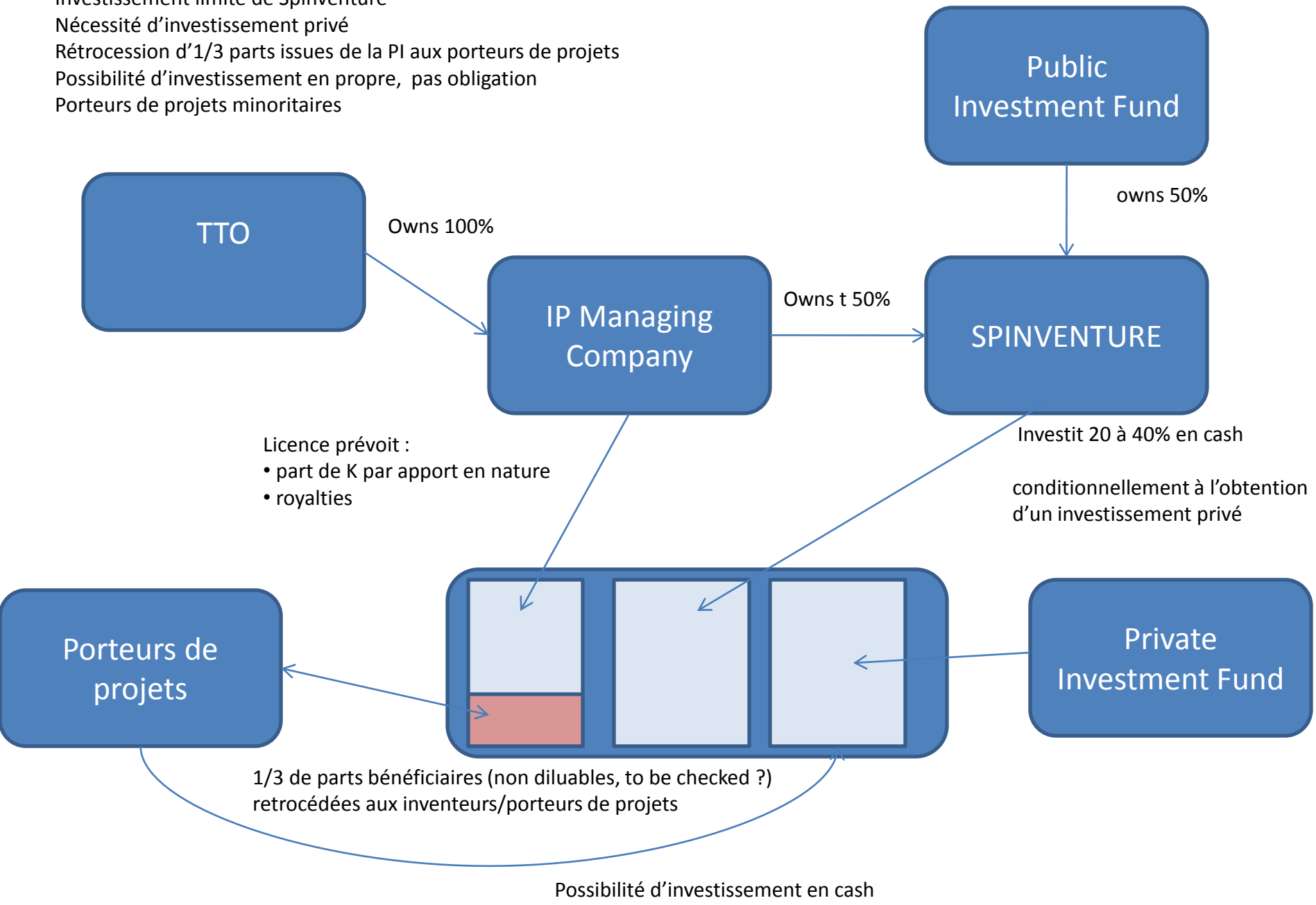


Vocabulary :
initial investment, cash burning, dead valley, time-to-market, break even, return on investment

« Elevator Pitch »

- Opening Statement / Context / Market Need
- Product – Solution
- Our Client – Value Proposition
- Competition
- Business Model
- The Team
- Achievements
- Your need
- Exit

Principes :
PI intégrée dans structure de capital; règle des trois tiers sur royalties
Investissement limité de Spinventure
Nécessité d'investissement privé
Rétrocession d'1/3 parts issues de la PI aux porteurs de projets
Possibilité d'investissement en propre, pas obligation
Porteurs de projets minoritaires



Spin-off creation

- Shareholder agreement !!!

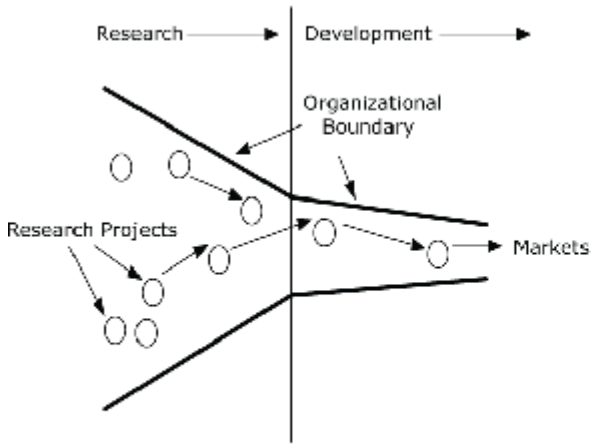
- This is not the end …

Trends

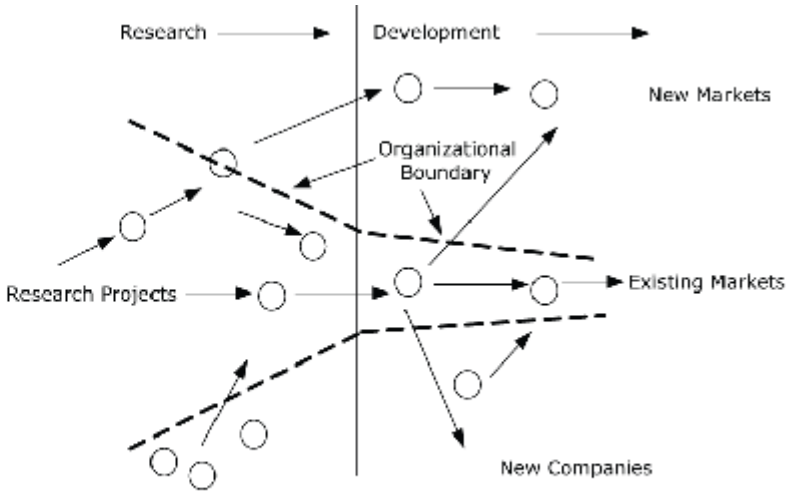
Innovation

- (Open) Innovation = Invention + Commercialization
  - http://www.forbes.com/special-features/innovative-companies.html
  - Interdisciplinarity
  - Narrow collaboration beteween universities and private companies

Open Innovation



Closed Innovation



Open Innovation

Distribution of Knowledge
- Patent award distribution
- Investment in R&D share btw small vs big companies

Many case studies, among them :
- Xerox PARC
- Merck

Trends

- Crowdsourcing (a.o. open source forge)
- Crowdfunding
- Products converted into « integrated solution » (a.o. mobility)
- Commodities (a.o. : through cloud computing)

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Questions & Answers

Many thanks for your attention!

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