

# « Spin-off/Start up & technology transfer: some advices & thoughts from my own experience »



*David Jacob – PhD Cordouan Technologies  
Pessac, le 21 Février 2022*

# Outline

- Cordouan Technologies History in brief
- Spin Off/start up company: What is a technology transfer?
- Success factors and risks : what do you need ? What is important?
- What have we learned: Some advices
- Conclusion: is it worth it?

# Cordouan Technologies at a glance

Established in 2007

in *Cité de la Photonique*, Pessac  
South of Bordeaux (France)



10 highskilled people to provide you top-of-class laser-based instruments to help you **enlightening the nano-world**

Our activity: development, design, Industrialization, manufacturing of innovative and advanced solutions for nanoparticles and nanomaterial characterization

More than 300 units sold in academic research labs and industry all over the world



# Product Portfolio for Nano-material/particles characterization

2007

**VASCO**

DLS for high concentration and absorbing samples



2013

**WALLIS**

Zeta potential



2017

**VASCO KIN**

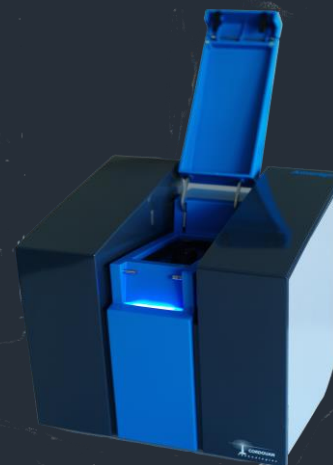
*In situ* and software correlator



2019

**AMERIGO**

Standard cell, *In situ* Time resolved DLS & Zeta potential



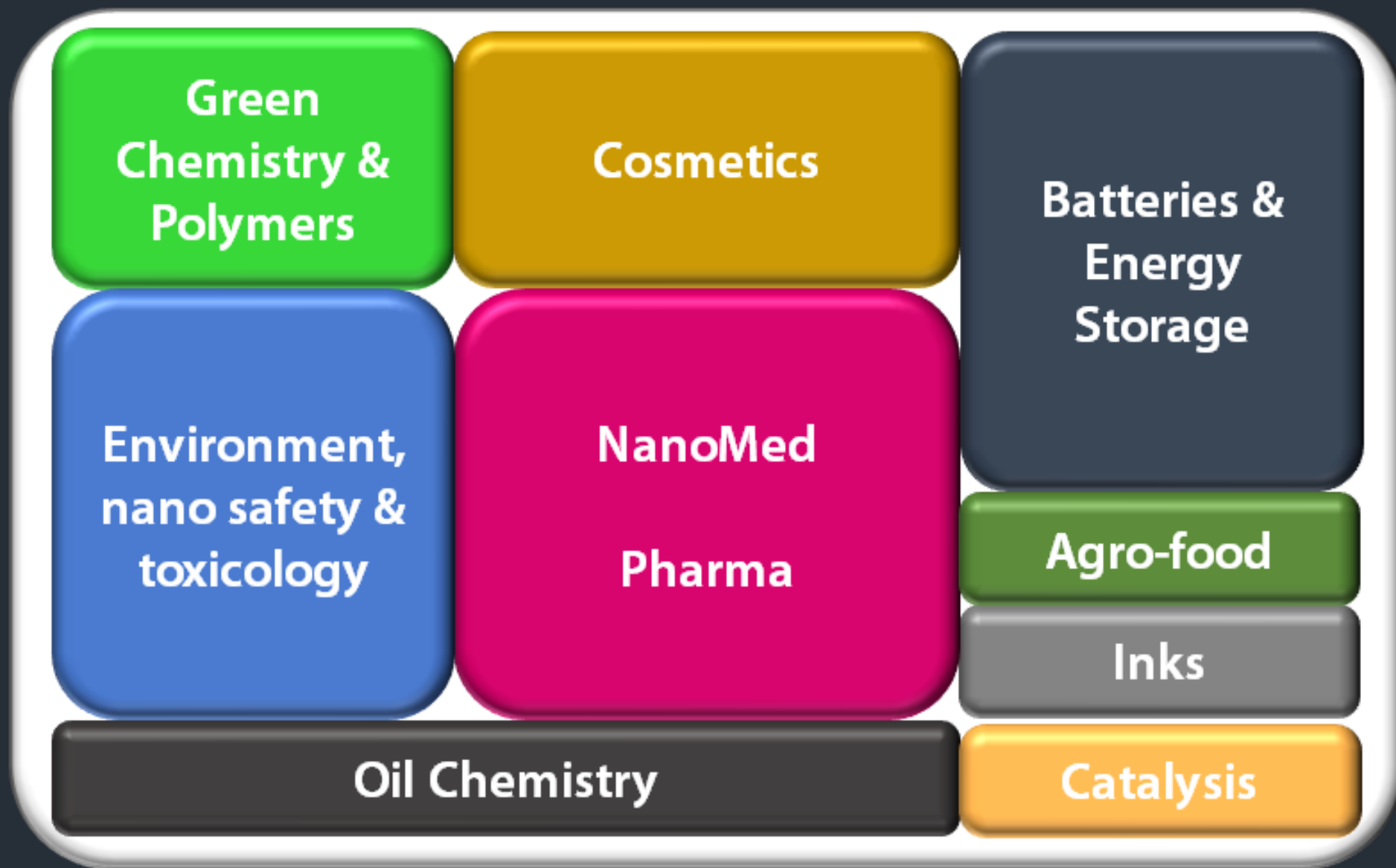
2021

**THETIS**

*Continuous Multi angle Time resolved DLS, SLS and DDLS*



# Markets & applications

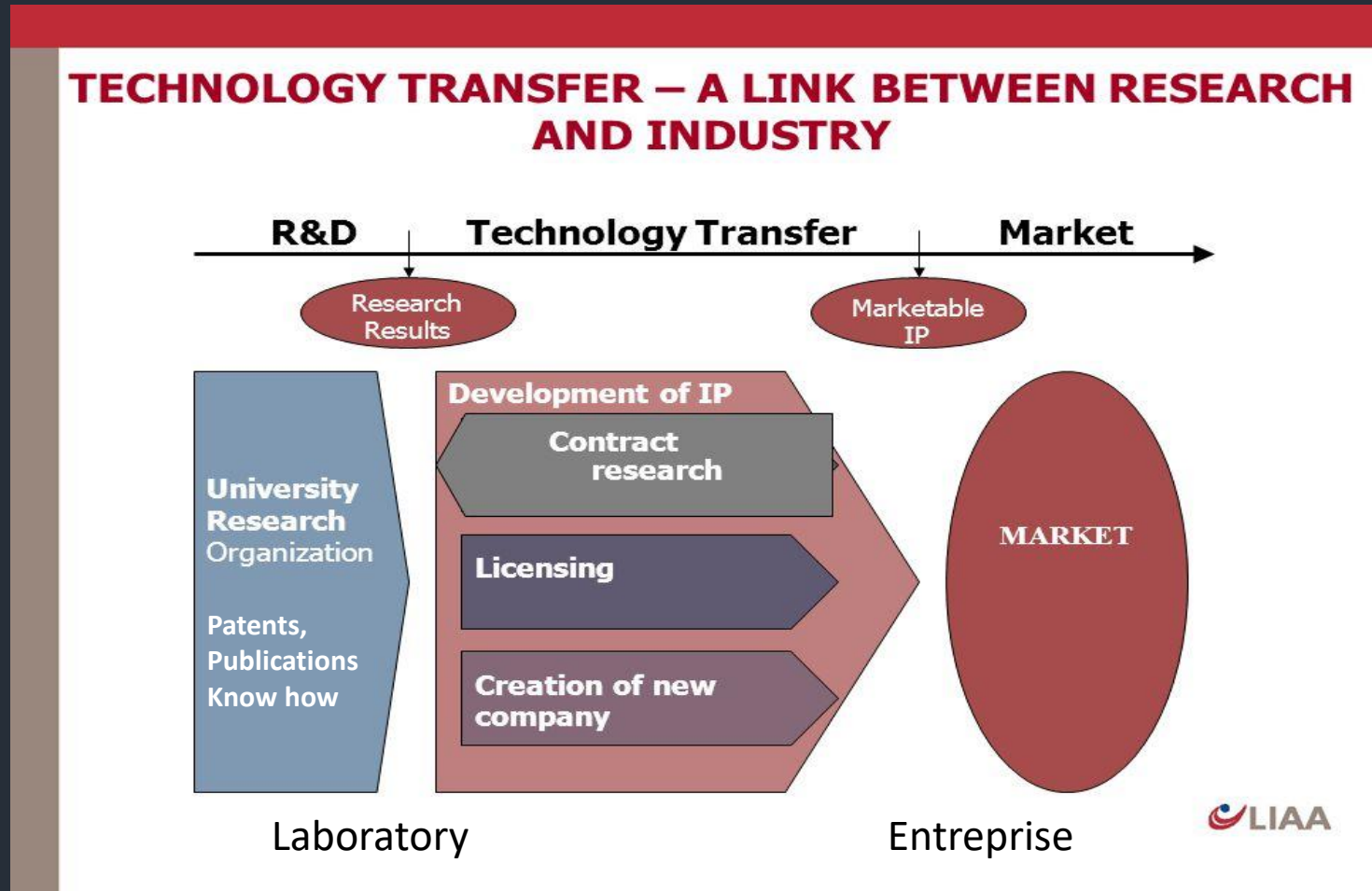


# What is a Spin Off?



Spin OFF => Technology/know how transfer => Start up

# Technology transfer: definition & motivation



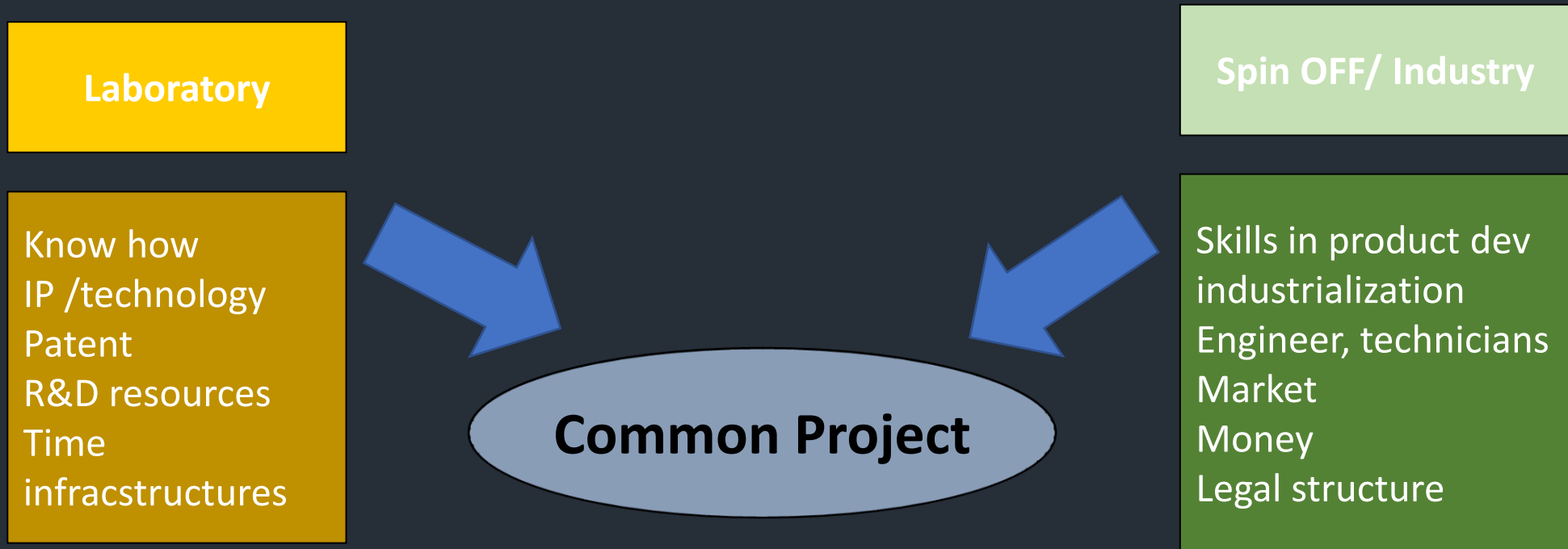
- Outsource your R&D
- Shorten development time
- Minimize upfront cost
- Use the competences and know how where they are
- Generate revenues for the lab & valorize IP

# Technology transfer: a simplistic (and erroneous) view!





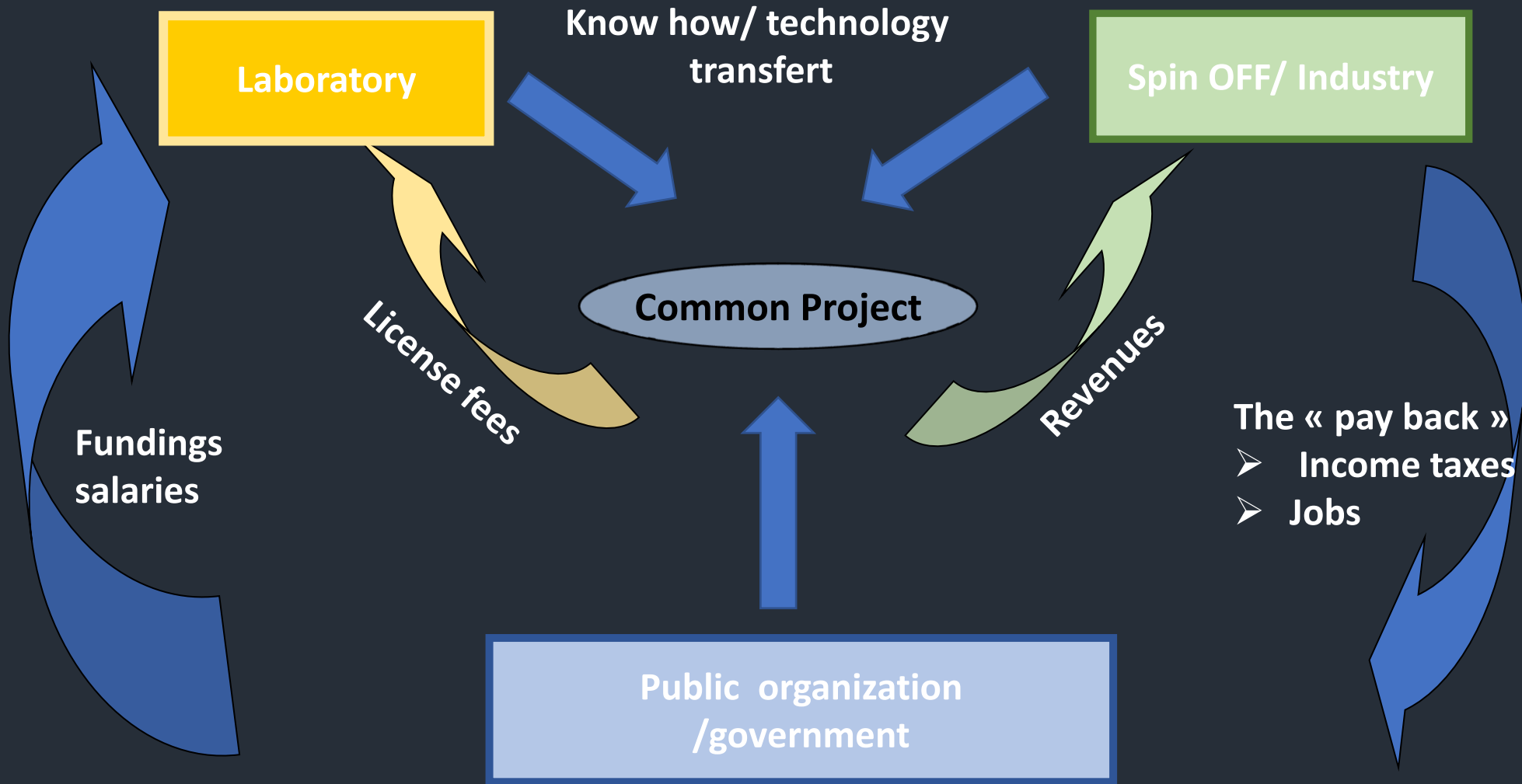
# Technology transfer: a common project



## The key factors:

- Converging objectives
- Expertise and what is brought to the table by the partners
- Work together: account for different culture and expectations
- Define a clear road map with milestones and ressource needs
- Define upfront IP rules : who owns the IP? Licences fees?
- Involve the inventors from the start!

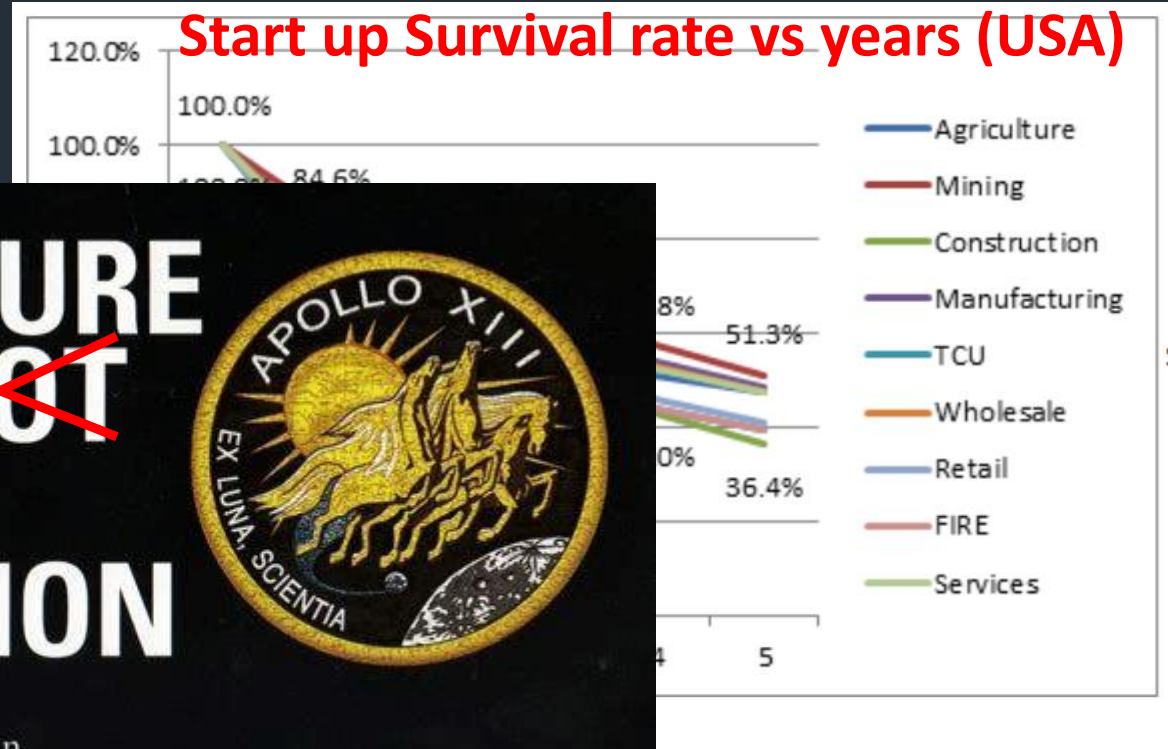
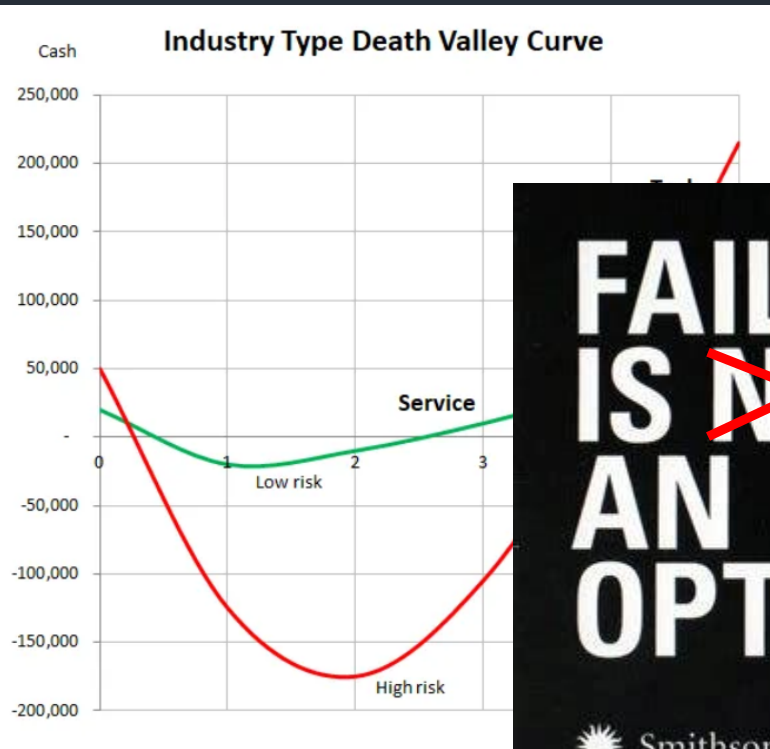
# Technology transfer: The virtuous (win/win) loop!



# Technology transfer: The virtuous (win/win) loop!



# Launching your spin Off: be prepared to cross “the death valley”



[startup-statistics-small-business.html](http://startup-statistics-small-business.html)

- Lack of resources (money)
- Human problems
- Technology failure
- Change in the global environment (regulation, policy, economy)
- Market over estimated or change
- Competitions landscape not anticipated

# So, What do you need to succeed your spin off project?

- ✓ A good idea/technology for a product or a service
- ✓ Identified markets (S) and customers/applications
- ✓ A good team
- ✓ A favorable environment: regulation, policy, economy, competitors, etc
- ✓ A clear strategy
- ✓ Resources: Time and money
- ✓ Commitment: a strong motivation, resilience and faith!
- ✓ Last but not least :A bit of luck!



# How good is a technology for a spin off?

- Bring
- With a
- Matur
- IP Pro
- Cost e
- Field p
- Innovat
- differe



**Would you bet on that technology?!!!**



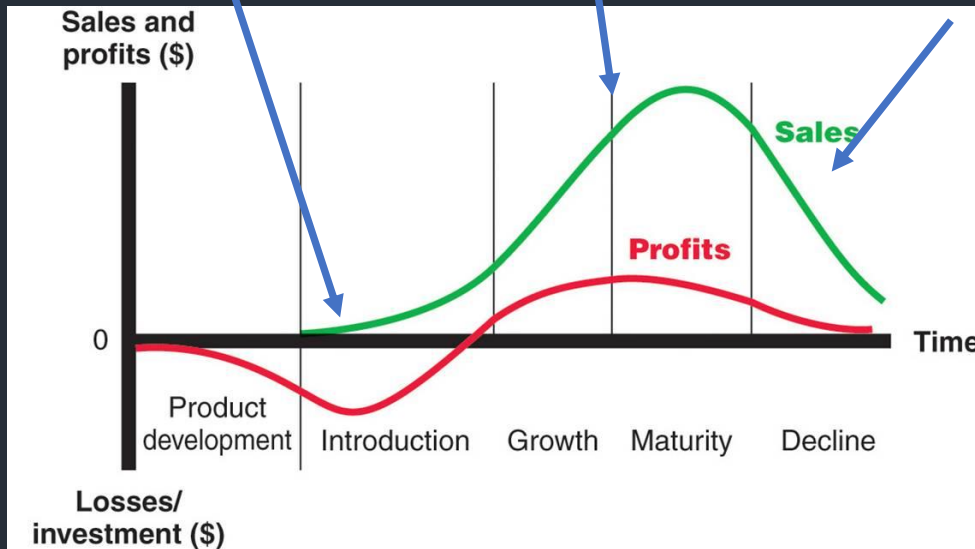
# Time to market & the product life cycle



Early adopters

New/next gen product launch

Obsolescence & price erosion



- Don't wait for the perfect product to launch: « Le mieux est l'ennemi du bien » (the best is the enemy of the good)
- Evil is in details...
- Importance of finding early adopters
- Competitors don't wait
- Anticipate environment changes (regulation , economy, competition, etc)

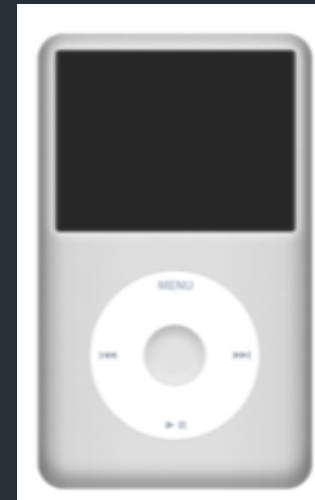


# The first on the market is not necessarily the winner!

An example: MP3 player



ARCHOS - 1999

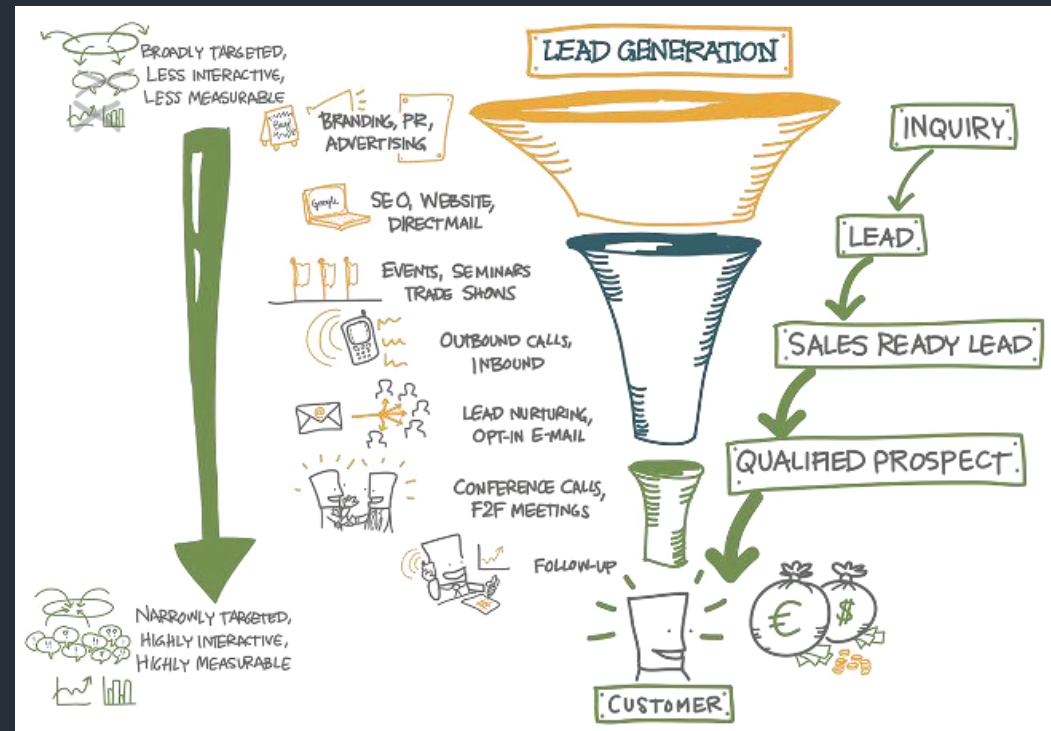


Apple - 2001

A favorable environment is needed to launch your product & allow your company to grow:

**To be at the right time at the right place**

# The sales funnel & commercial forecast



Conversion rate of the funnel : How much leads and time do I need to make one sale?

- Lead Time : 3 to 12 Months
- Conversion rate less than 10%!

# Some key notions & definitions

- Prise de commande, facturation/CA, backlog
- délai de fabrication, délai de paiement
- Besoin en Fond de Roulement, accroissement du BFR, trésorerie
- Compte de résultats: Marge brute et Marge nette, Excedent Brut d'Exploitation, résultat net
- Bilan

# What is the good price for my product/service?



- ❖ Targeted margin? Typically at least 50 % in scientific for instrumentation in direct sales
- ❖ Perceived value for the customer? (level of “pain in the ass” you solve!) -> don't sell off your solution
- ❖ Size and typology of the market (OEM, BTB, niche, commodity, etc)
- ❖ Return on R&D expense
- ❖ Competition landscape and unicity of product
- ❖ Public lab purchasing rules (threshold for public tender)
- ❖ Account for price erosion (competition & obsolescence)

It's better to start with high end price ; very difficult to increase price afterwards

## A good team:

- Complementarity of skills and experience
- A common objective & shared vision for the company:
- a high degree of mutual confidence
- Be ready for a human adventure



*Mathias Le Pennec*  
President



*David JACOB*  
CTO



*Stéphane Aguy*  
Sales director



*Didier Frot*  
Scientific expert

founded around a nucleus of four experienced people:

**The Cordouan Musketeers!**

“one for all , all for Cordouan!”

# IP and patent: why it is important?

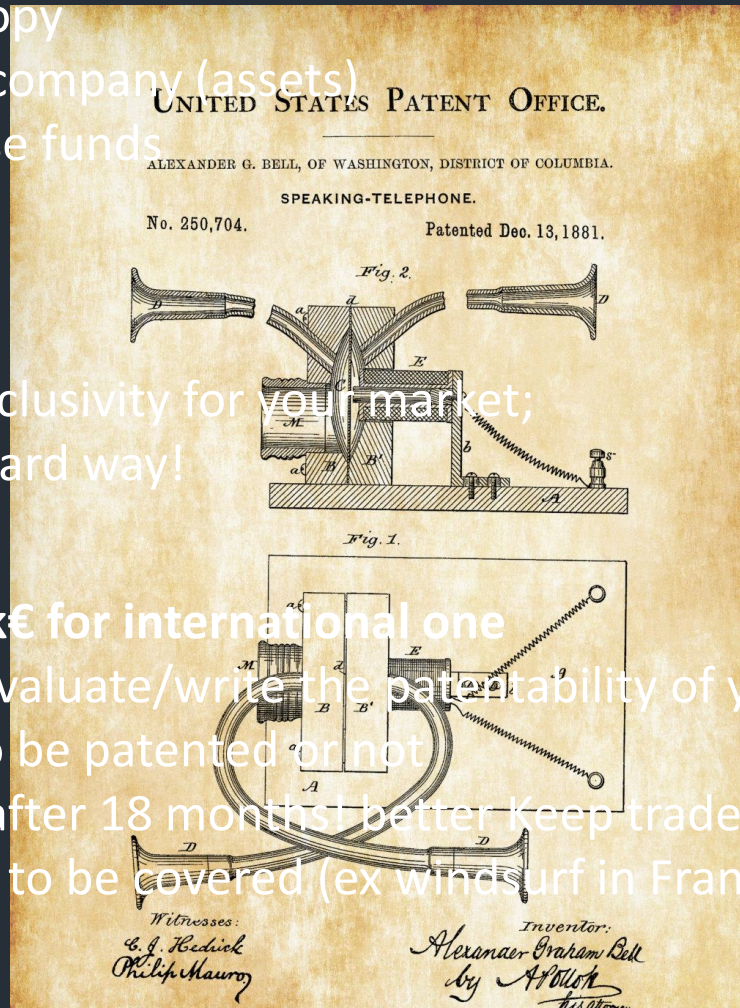
- To protect your IP from copy
- Part of the value of your company (assets)
- Usually mandatory to raise funds
- Valorize licensing

In case of licensing:

- Be sure that you have exclusivity for your market;
- Negotiate your fees the hard way!

## Important Notice

- Patent is expensive: > 10 k€ for international one
- Let professional lawyers evaluate/write the patentability of your innovation
- Think about what needs to be patented or not
- > patent will come to public after 18 months! better keep trade secret for yourself!
- Select the right territories to be covered (ex windsurf in France)



## CORDOUAN's Patents

1 Device for characterizing the electroacoustic potential of a solution, 2013-11-13, **WO2015071225 (A1)**

2 Devices and methods for characterizing particles dispersed in a liquid medium, 2016-02-29, **US2017248510 (A1)**

3 - Improved particle size analyzer, 2009-06-26, **WO2010149887 (A1)**

4 - Dispositif et procédé de détermination de paramètres caractéristiques des dimensions de nanoparticules **EP3789750A1**

# The business plan:

Why:

- Your business plan describes the foundation of your business
- A communication tools for your partners
- Mandatory to raise money and get supports

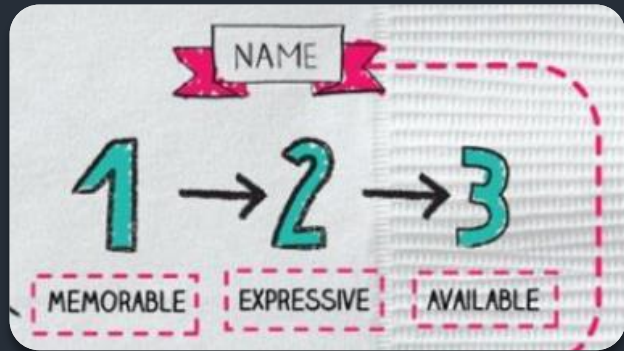
What does it contains:

- Executive summary: The purpose of your company
- What products/services for which market
- Competition landscape and opportunities
- How will you do it?
- With who? Organisation & management
- Marketing and sales strategy
- R&D and production plans
- Financial projections: Revenues and profitability
- Funding: How much resources and time do you need



It is not your real road map!

# Last but not least: Finding a good company name



- Importance of internet visibility and ranking
- Beware: not easy and expensive to change afterwards

## Cordouan Technologies



*« ... The lighthouse of Cordouan, the king of the lighthouses is located at the mouth of the estuary of the Gironde (33). It symbolizes both the light that shows the way to the unknown horizons, to the future, and that enlightens the researchers, explorers of modern times in their scientific quest.... »*

*Mathias Le Pennec- PDG*



# And finally you are ready to launch the rocket !

## THE DEFINITIVE PRODUCT LAUNCH CHECKLIST

### Analyse competition & Market size

**Hint:** What can you do better?

**Tools:** Facebook ads audience, Adwords Keyword Planner, LinkedIn Ads Audience (B2B)

### Define Launch goals / Set date

**Hint:** Make it achievable but ambitious

### Customer development, who are they?

**Hint:** Don't pitch!

**Tools:** Customer Development Script (customerdevlabs.com)

### Marketing Activities

**Hint:** Write everything down however whacky

**Tools:** ICE Table

### Build landing page / MVP

**Hint:** The simplest version that will create value and prove business demand

**Tools:** Unbounce, Wordpress themes, fiverr

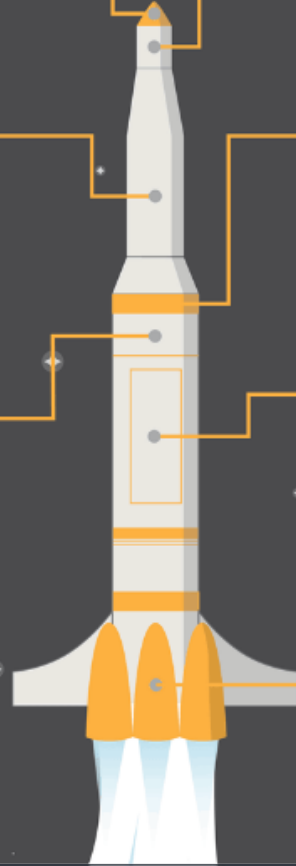
### Incentivise sharing

**Hint:** Use a tool that doesn't require custom code! (Waist of money)

**Tools:** Maitre (of course)

### Launch day Blitz (Don't sleep in)

**Hint:** Point all Marketing activities towards the same launch day competition: Hype-Hype-Hype

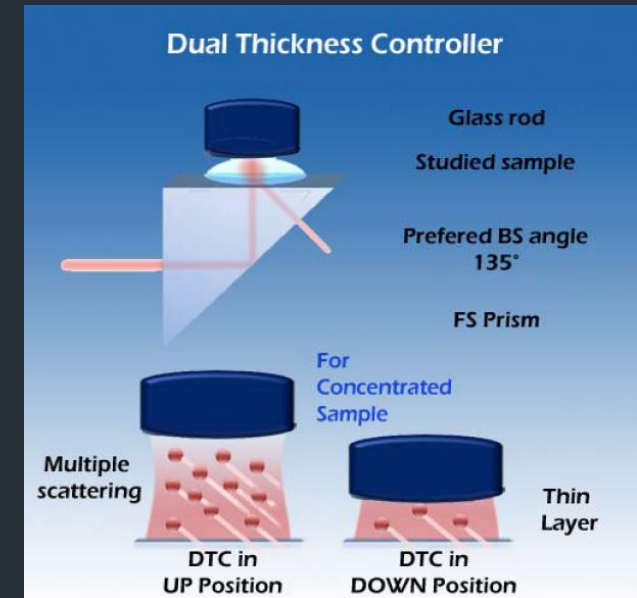
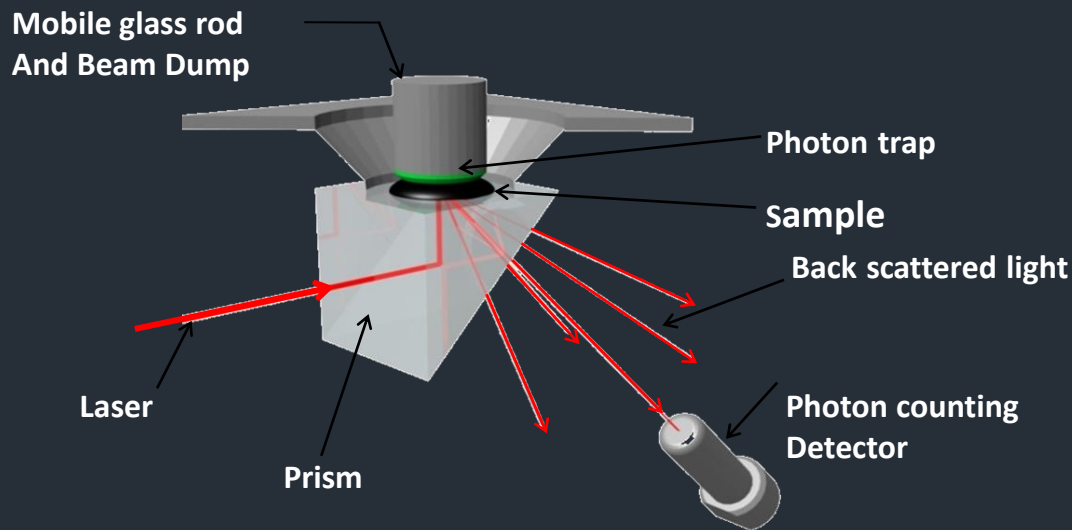


# One example of a successful technology transfer in Cordouan

**VASCO nano particle size analyzer**

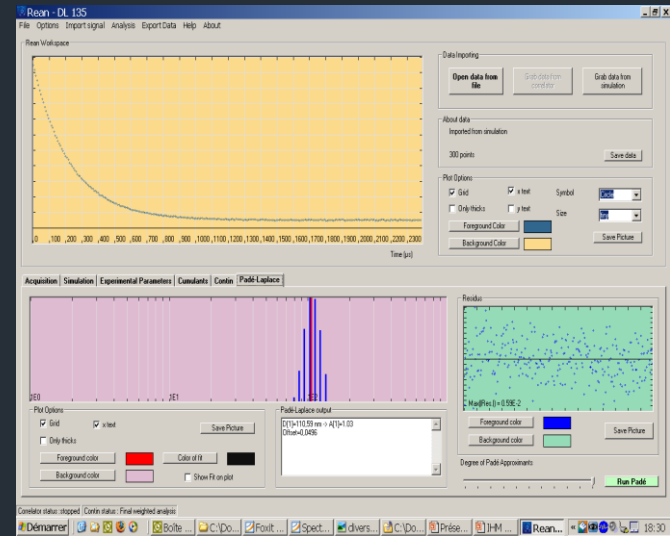
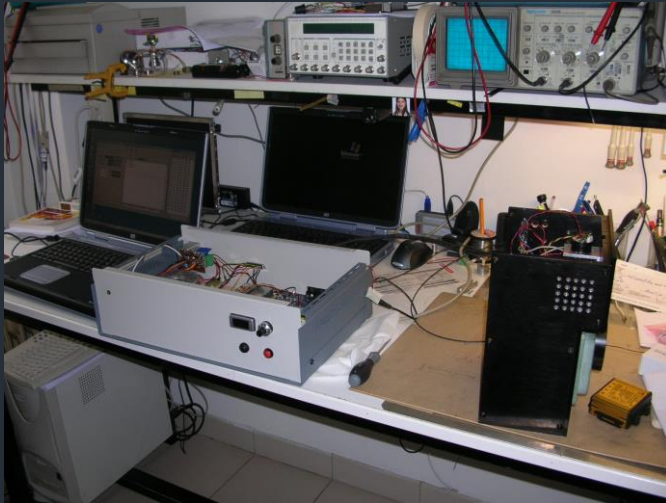


# The Dual Thickness Control technology For concentrated DLS measurement

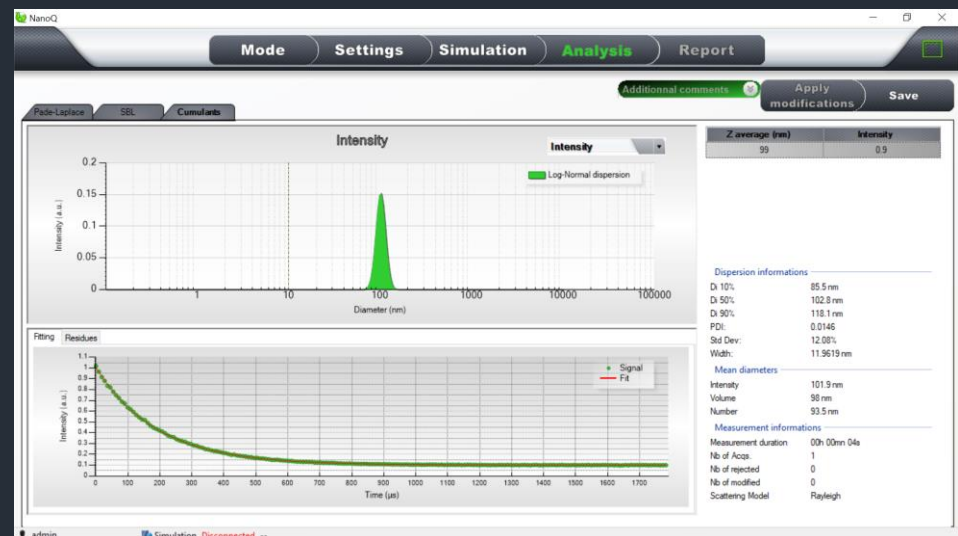


- Innovation in the sample cell configuration: Dual Thickness Control (**Thin layer analysis**)
- Higher detection efficiency in opaque media : 2 decades better than competitors!
- Proprietary inversion algorithm allowing efficient size distribution analysis
- Patented in 1997!

# Technology maturity at the start of project (2005): TRL4



# VASCO product at launch (late 2007): TRL8-9



## Facing competition: an example of adaptability (Blue Ocean strategy)

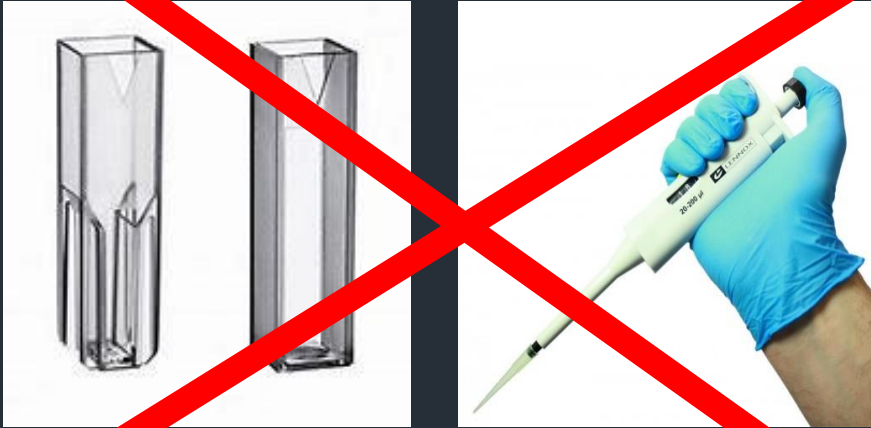


Time for a change of paradigm: “bring the measurement to the sample!”

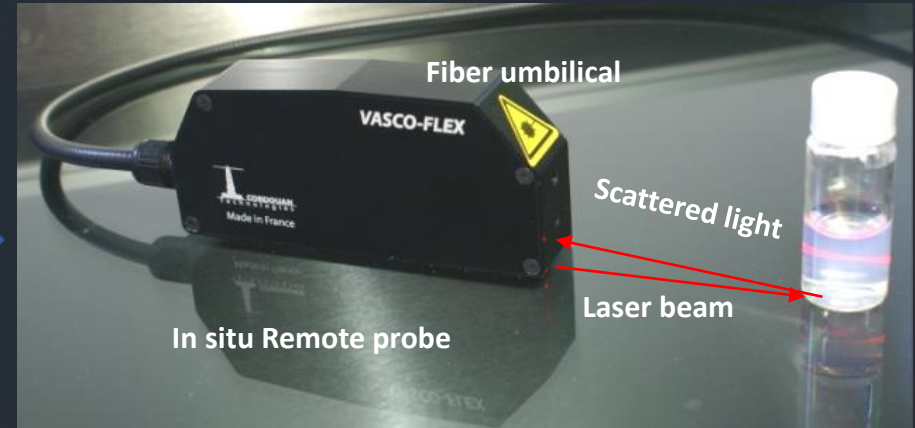
- Not only to satisfy unmet customer needs
- Get out of the Red (sharks) Ocean through differentiation

# The In situ probe concept:

## RED OCEAN



## Blue OCEAN



- No need to batch the sample, no sample manipulation
- Non invasive, No contact with the sample-> No contamination
- Time saving, no consumable
- Not disruptive but Unique: no equivalent on the market

# VASCO product evolution History: a continuous process

2005



## Competitors

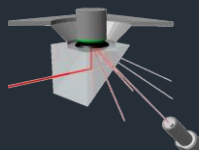
- Sample dilution required
- Cell consuming
- Limited algorithms
- No developments since 15y.

2007



## VASCO

- No consumables
- Enhanced concentration range (patented DTC techno.)
- Unique Pade-Laplace algo. for accurate polymodality measurement



2014



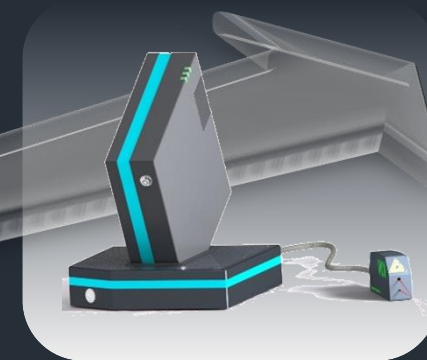
## VASCO Flex

- In-situ = No sampling and preparation
- Design flexibility to match customer requirements
- Coupling with other lab instruments/devices
- Unique Sparse Bayesian Learning algorithm for accurate polydispersity measurement

Since 2014



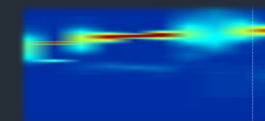
2017



## VASCO Kin

- More than ever In-situ
- Acquisition 10x faster
- cutting-edge HW technos for unrival specs
- fully automatic
- space saver (L:22cm )
- Time-resolved DLS for kinetics monitoring with a time resolution as low as 0.2s

2018



## Some advices

- Don't let the technology drive your plans; The market/customer is the driver!
- A good scientist/ inventor is not the best seller
- Be aware of local/national support Grant/fundings
- Importance of collaborative Projects to mature your technology
- Start with local/domestic customers
- Satisfied Customers are your best promoters: reactivity and customer care
- Focus on targeted events and specialized media



## Some more advices (2)

- Consistent and focussed: Don't change your plan at the first difficulty , but....
- Adaptability : Be ready to change direction and your plan whenever necessary
- Anticipation: Governing is all about anticipation
- Grounded: Be cautious about market study; Real data come from the field!
- Creative: Think out of the box!

Be very conservative in the time and money you need !

- Time needed always 1,5x worst-case timing
- Money needed always 1,5x worst case resources



# Spin OFF/start up: Pros/strengths and Cons/weakness

## Pros/strengths :

- Freedom: you are the master of your fate and time!
- Reactivity
- Adaptability, agility
- Creativity

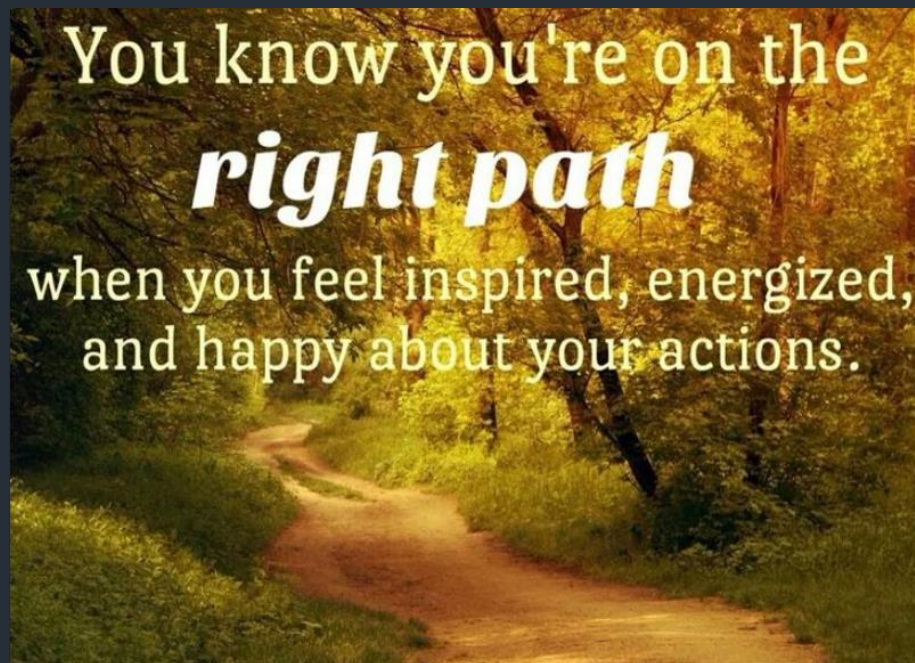
## Cons/weaknesses :

- Lack of visibility on the market!
- Limited resources (Financial , Human)
- Difficult to sell worldwide (Distribution network)
- You've got to make twice the effort compared to established competitors
- Fully committed and accountable



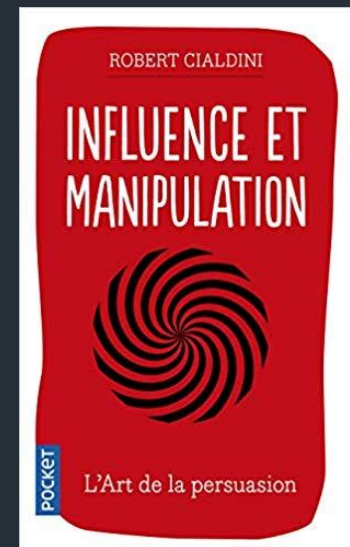
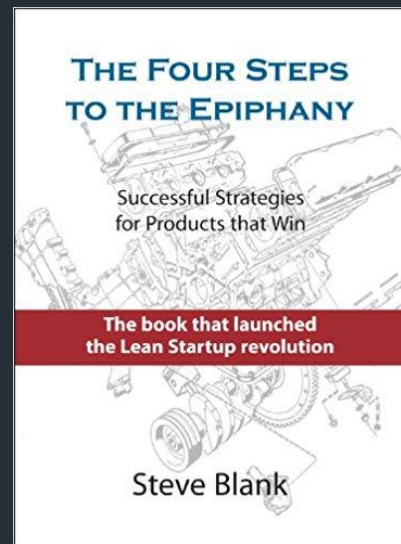
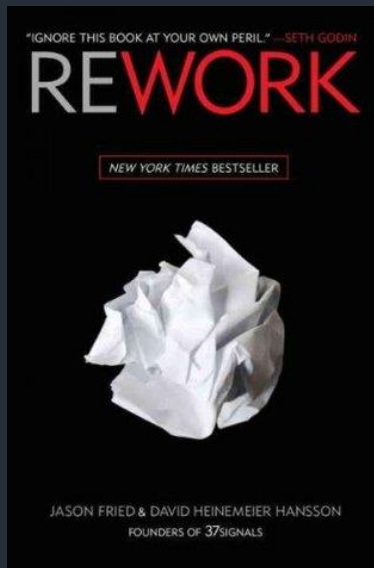
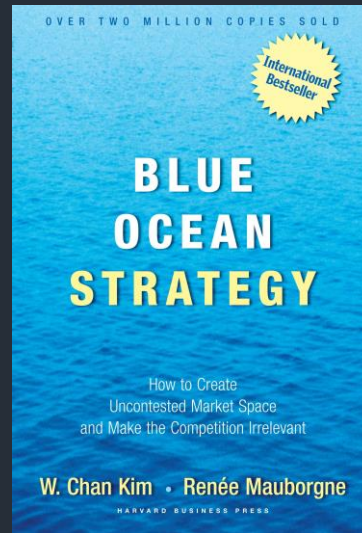
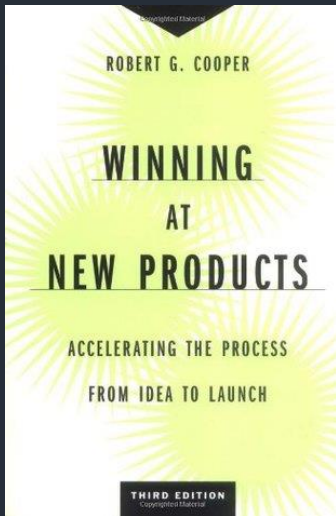
## Conclusion: is it worth it?!

Yes of course but you have to be well prepared  
for the adventure!



*“The only project that will surely fail is  
the one that you don’t try!”*

# References & books



- Thank you for your attention -

**And good luck for your Spin Off/Start up Projects!!!**

