



LICENSING EXECUTIVES SOCIETY  
INTERNATIONAL

# IP Assets valuation, a case study

Biotech SU – Corporate Officer

By Caroline de Mareuil-Villette, ICOSA

& Véronique BLUM, Stradivalue



# **Qualitative Valuation and Quantitative Valuation of the Inventive Contribution of the Executive Director of a Biotech Company: an IFRS Compliant Valuation Process**

**A Webinar organised by LESI IPV Committee**

**with the support of LES France**

**January 29 2020**



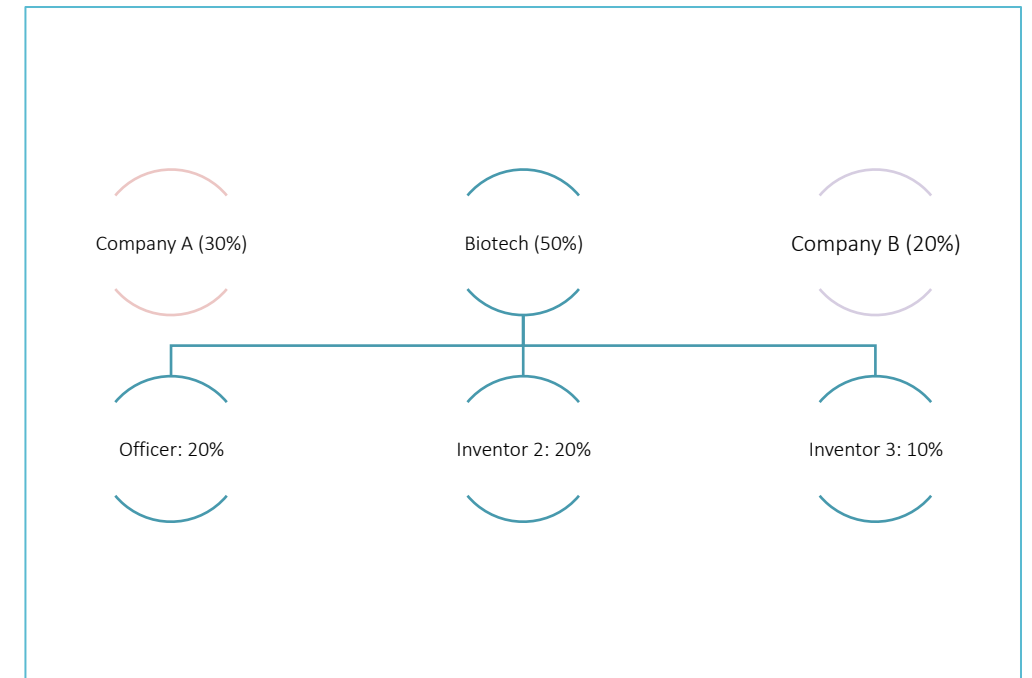
## Patents ownership level Methodology

### Inventive contribution of the corporate officer for each patent family

- Analysis based on inventors declaration

### Inventive contribution of the corporate officer for each program

- Average of the inventive contributions of the corporate officer
  - Weighted according to the strategic content of each patent family
    - Only strategic families are examined
  - Undetermined weight
    - Non strategic and defensive families





# Patents ownership level Results

## Programm A

- With weight: 15%
- Without weight : 22 %

Hypothesis/ Programm A : 17%

## Programm B

- With weight: 20%
- Without weight : 27 %

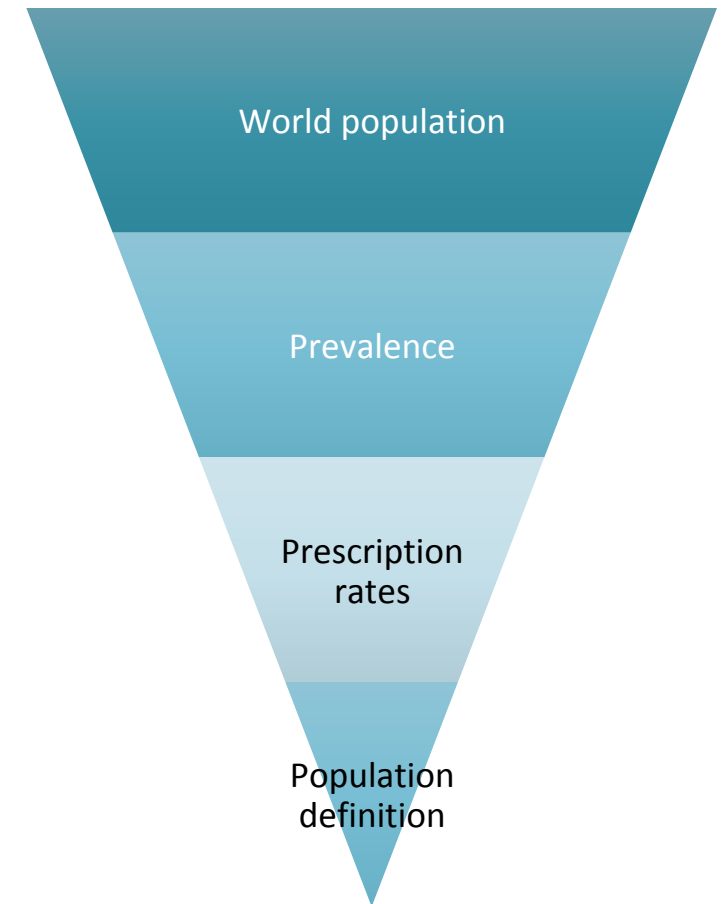
Hypothesis/ Programm B : 25%



# Financial Value Hypothesis

## Sources for assumptions definition

- World population in Europe and US
  - UN
  - Smoothed annual growth rate
- Prevalence
  - Scientific journals of 2014 et 2018
  - Remove the results out of the geographical area
- Prescription rates
  - Statistics from CSA / Europe Assistance





# Financial Value Hypothesis

- Hypothesis as per the Annual report of BIOTECH

- Business model
  - Licensing agreement
  - No production
- Earnings models
  - Royalties between 6% & 10 %
- Patent horizon

Package	Start MA	End MA	Operations begin	Operations end
Disease1	2022	2023	2023	mid 2038
Disease 2	2023	2024	2024	mid 2038
Disease 3	2021	2021	2021	mid 2038

*MA : Market access approval by the sovereign authority*

- Market shares definition, as per the company's strategy
- Drug prices: pharmacist margin deducted from market price

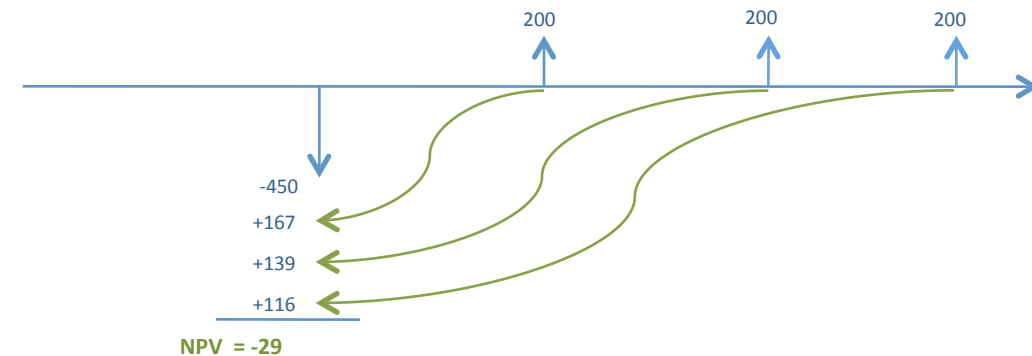


# Financial Value Methodology

## IFRS compatible approaches to DCF calculation

- First approach : risks are captured in the discount rate
    - Discount rate comprises a premium
  - Second approach : risks are allocated to revenues
    - Discount rate is that of the equity (in the absence of financial debt)
- 
- Range of potential values
  - Compliance with IFRS, the BIOTECH financial reporting standard

Y	0	1	2	3
Investment	- 450,00 €			
Cash Flows		200,00 €	200,00 €	200,00 €
Discounted 20%		166,67 €	138,89 €	115,74 €
NPV	-28,70 €			





# Financial Valuation Results

## NPV – Discount rate adjusted expected return by venture capitalists per the stage development

STAGE	VC target return
Early stage	25% - 70 %
First stage	40 – 60 %
Later stage	35 – 50 %
Bridge / IPO stage	25 – 35 %

## NPV – Cash Flows adjusted by probability of success

- Discount rate estimation/ CAPM:
  - Weekly data
  - History = Quotation time : 3 years
  - Geometric profitability
  - S&P MIDCAP 400
  - Market premium 5,65%
  - Risk free rate : 1,23%

STAGE	Milestone	Probability of success		
			Stage 2	Stage 1
R&D to preclinical	End of preclinical study	25%		
Preclinical to stage I	End stage I	45%		45%
Stage I to stage II	End stage II	63%	63%	28%
Stage II to stage III	End stage III	31%	20%	9%
Stage III FDA	FDA	58%	11%	5%
FDA to launch	Launch	85%	10%	4%
<b>R&amp;D to launch</b>	<b>Launch</b>	<b>1,27%</b>		





# Financial Valuation Results

## NPV – Discount rate adjusted

expected return by venture capitalists per the stage development

- Discount rate: 25 % (Damodaran)

- NPV

VALUATED PROGRAMS & COMBINATIONS	Horizon	VALUE
Diseases1 & 2	20 y	96 739 K €
Disease3 (orphan)	20 y	64 687 K €
<b>TOTAL</b>	<b>20 y</b>	<b>161 606 K €</b>

- Compensation valuation

Disease 1 contribution 0,85 %	326 K€
Disease 2 contribution 0,15 %	88 K€
Disease 3 Contribution 1,7%	1 103 K€
<b>Patents ownership value</b>	<b>1 516 K€</b>

## NPV – Cash Flows adjusted

by probability of success

- Discount rate : 4,39 %
- NPV

VALUATED PROGRAMS & COMBINATIONS <sub>y</sub>	Horizon	VALUE
Diseases1 & 2	20 y	77 425 K €
Disease3 (orphan)	20 y	12 459 K €
<b>TOTAL</b>	<b>20 y</b>	<b>89 884 K €</b>

- Compensation valuation

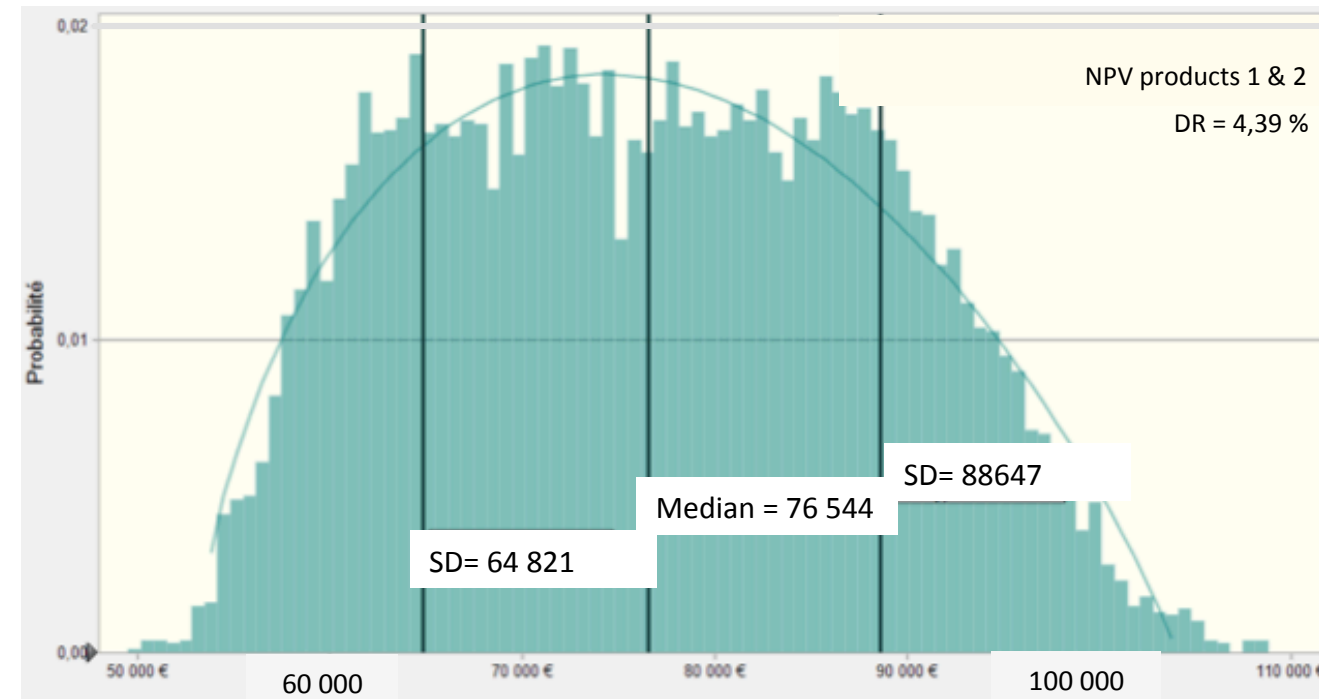
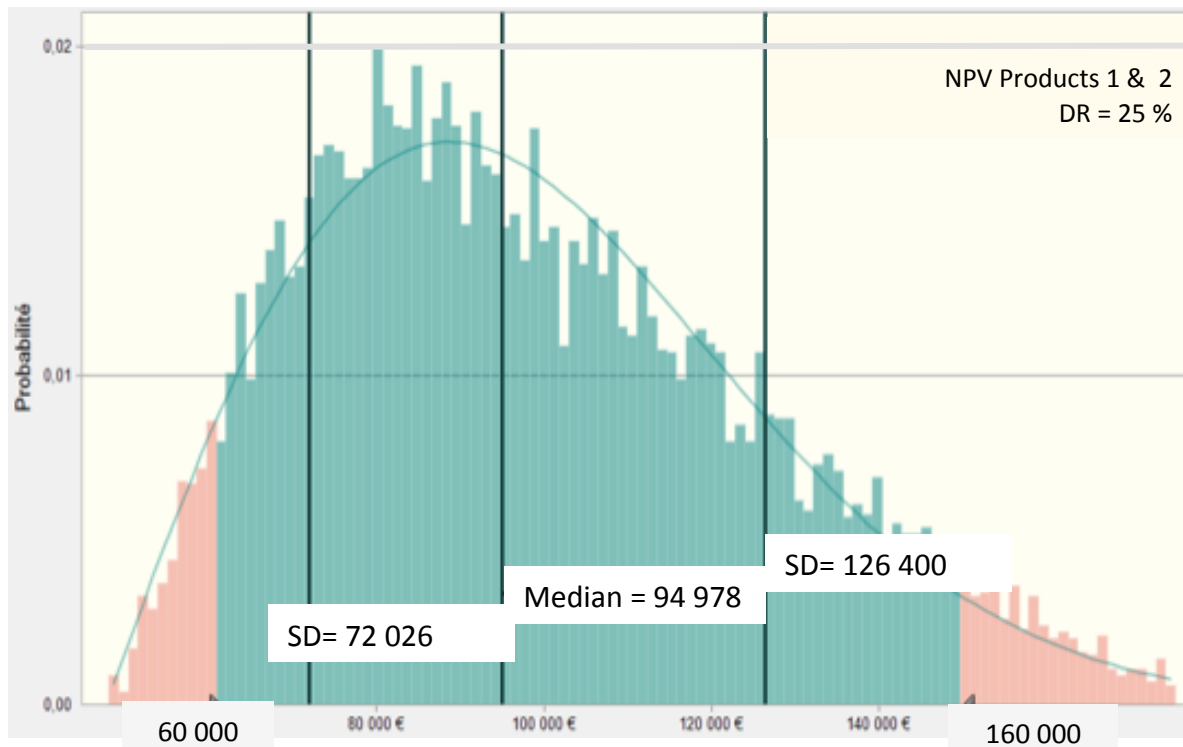
Disease 1 contribution 0,85	230 K€
Disease 2 contribution 0,15 %	76 K€
Disease 3 Contribution 1,7%	212 K€
<b>Patents ownership value</b>	<b>518 K€</b>



# Financial Value Results – Monte Carlo Simulation

NPV – Discount rate adjusted expected return by venture capitalists per the stage development

NPV – Cash Flows adjusted by probability of success





**Thanks**

**Qs ?**