



Venture Valuation

Seoul

Dr. Patrik Frei

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Venture Valuation, Switzerland
www.venturevaluation.com



Venture Valuation

1. Independent, third party Assessment & Valuations

2. Biotechgate Database / Partnering

- Experts Finance / High-tech industries
- Not a venture capitalist
- International experience
- Systematic / Validated Approach
- Track record of over 100 valued companies
- Clients **Investors**: Novartis Venture Fund, Fraunhofer Gesellschaft, European Investment Bank; **Companies**



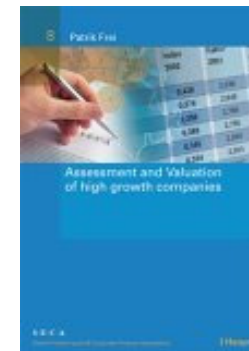
History

- Spring 1999: Foundation Venture Valuation, contract from Novartis Venture Fund
- Fall 2001: Cooperation with Germany / Canada
- 2001: Foundation of Corporation (AG)
- 2002: Foundation of Canadian company
- 2003: Swiss Life Sciences Database
- 2005: Collaboration with EBD Group for Partnering
- Today: 10 employees + 3 representatives offices (Canada, Germany, Korea)

Scientific Basis

IMD, Lausanne Case study for Executive MBA
with Novartis Venture Fund, Gene Data AG

EPFL, Lausanne Dissertation on “Assessment and Valuation
of high growth companies”



University St. Gallen, Master thesis

Valuation of Venture Projects, Prof. Scheuenstuhl



Several published articles and papers

Nature Biotechnology, Volume 22, August 2004,
Valuation – what you need to know

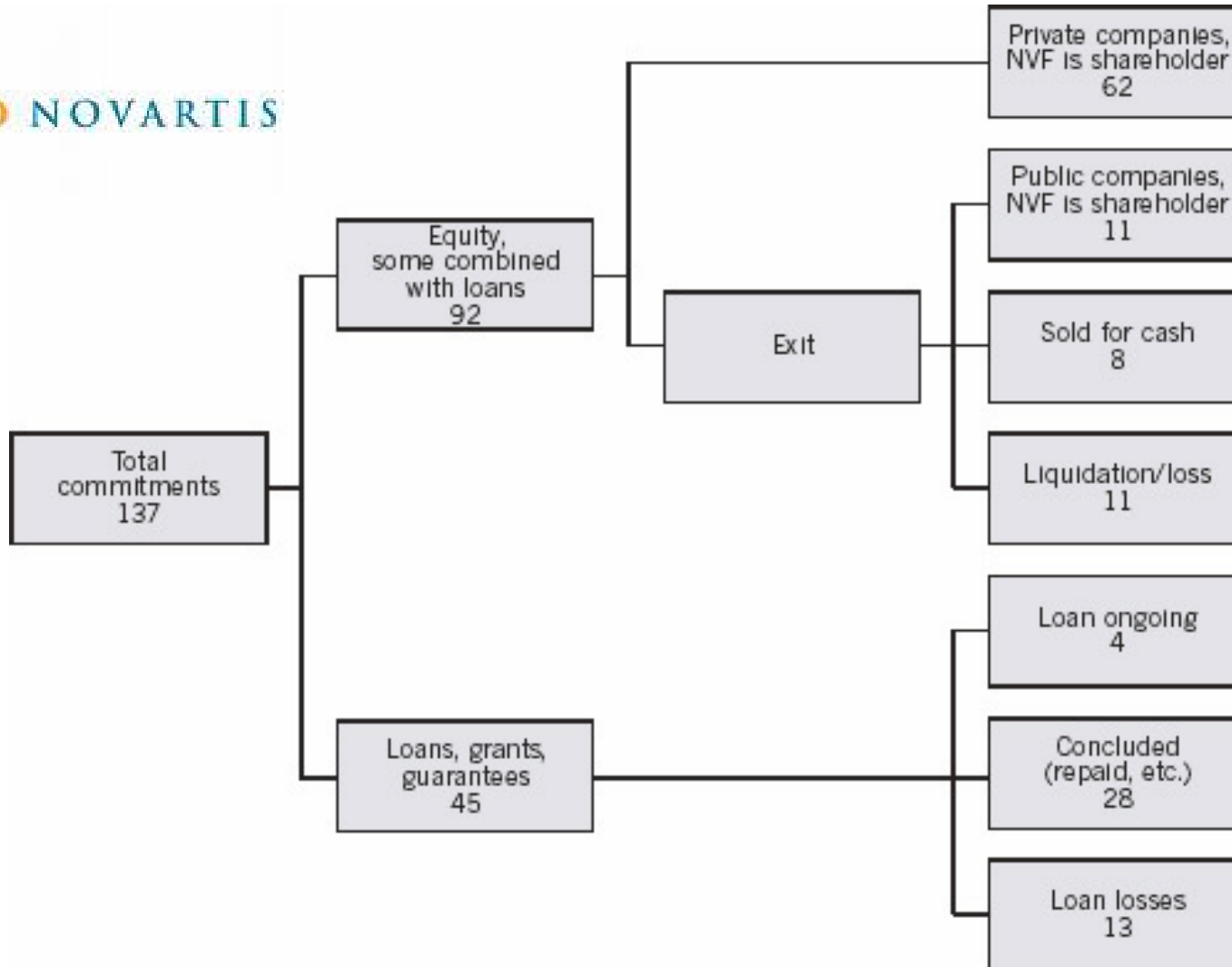
Client: Novartis Venture Fund

- Started 1997
- USD 80 m (merger Ciba and Sandoz)
- 137 investments worldwide



- Example: Glycart => The Glycart logo, featuring the word 'GLYCARD' in blue capital letters with 'biotechnology' in a smaller font below it.
- Roche in July 2005 for USD 180 m The Roche logo, which is the word 'Roche' in blue capital letters inside a blue hexagonal border.
- Swiss company; founded in 2000 spin-off from ETH in Zurich, 30 employees
- Technology platform to enhance the activity of therapeutic antibodies (cancer / autoimmune diseases) => Pre-clinical products

Client: Novartis Venture Fund

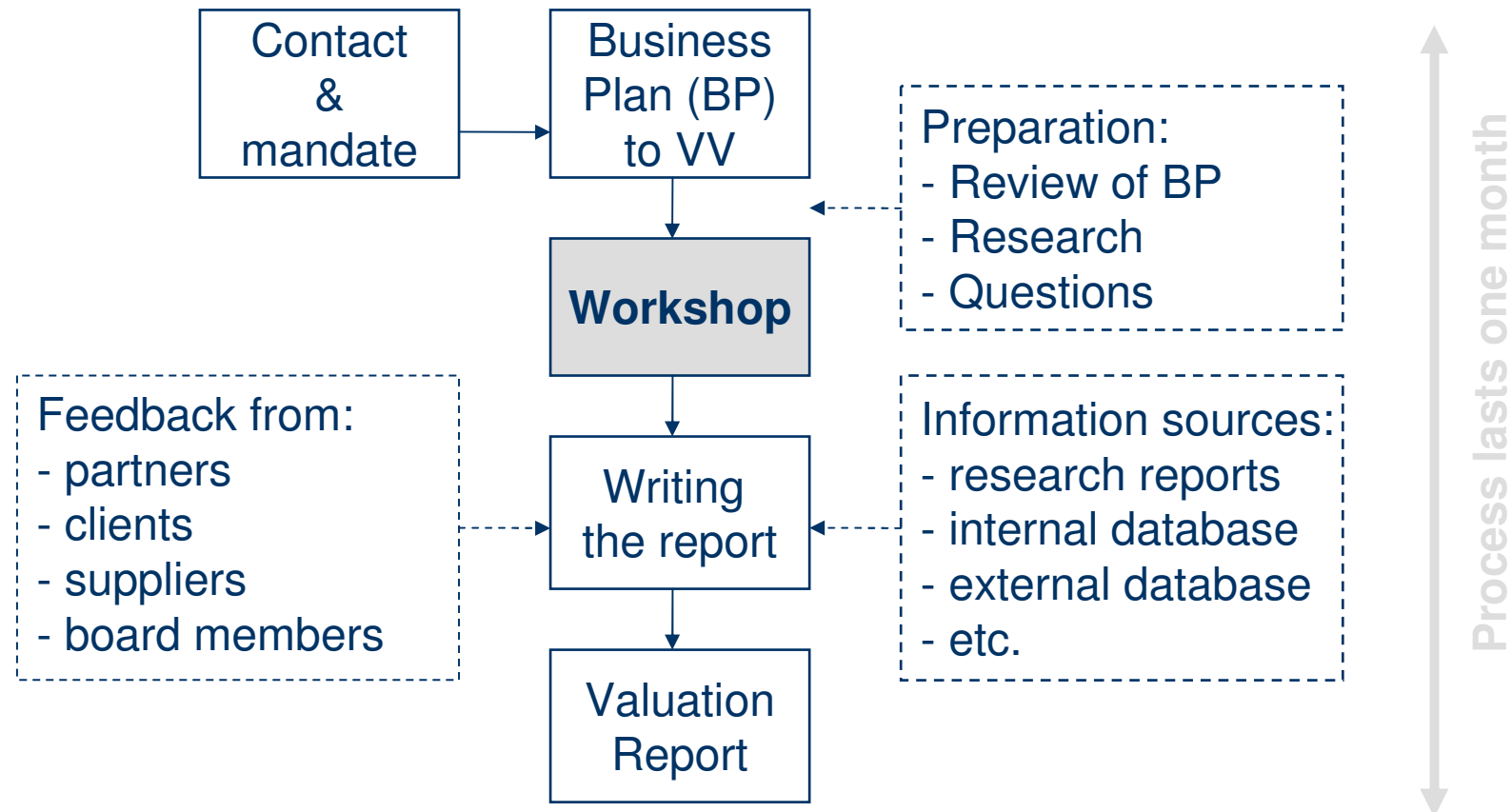


Product portfolio



Economic Development	main customers				
Business Angels	main customers				
Non-Profit Organizations / Foundations	main customers				
Investors (VC, Corporate)		main customers	main customers		
Pension funds					
Companies		main customers			

Process for a valuation



Valuation of what?



1. Valuation of a product

⇒ Licensing deal

⇒ Strategic development decision



2. Valuation of a company

⇒ Investment / Financing round

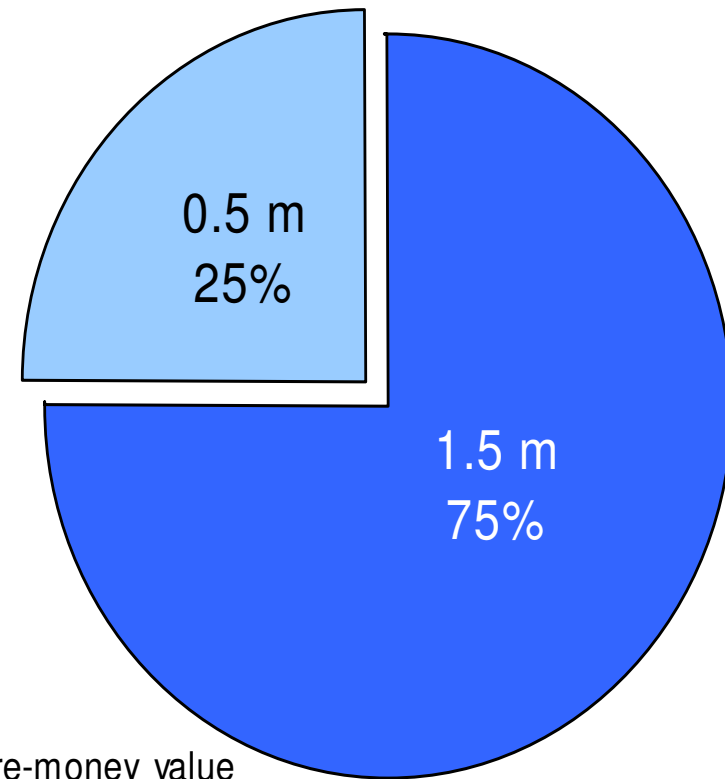
⇒ Merger / Acquisition

⇒ Measure success of company development



Why Company Valuations?

- Value before investment (pre - money value): EUR 1,5 m
- Investment: EUR 0,5 m
- Value after investment (post-money value): EUR 2,0 m
- Share Investor:
 $0,5 \text{ m} / 2 \text{ m} = 25\%$



■ Pre-money value
■ Investment

Definitions

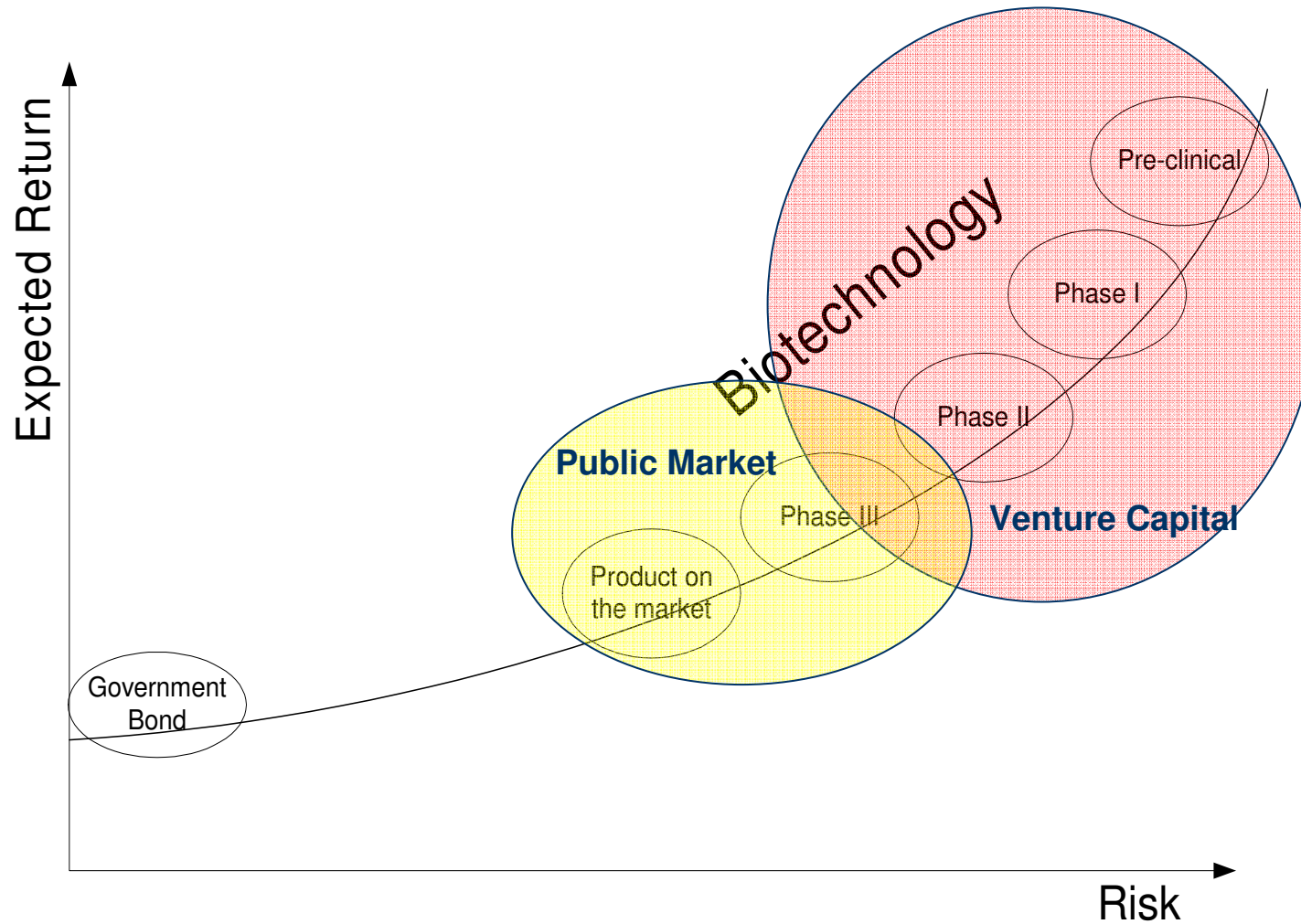


- **Value:** implies the inherent worth of a specific thing
- **Price:** depending on the market (supply / demand); whatever somebody is prepared to pay

“Price is what you pay. Value is what you get.”

By Warren Buffett

Risk vs. Return



From Assessment to Valuation



1. Understand the fundamentals
 2. Assumptions drive the valuation
- => assessment is key

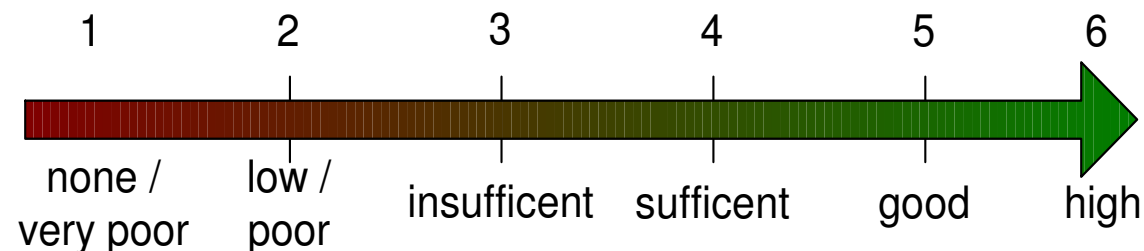
Assessment:

1. Management 
2. Market  
3. Technology  

Management



1. Completeness skills
2. Track record / experience
3. Motivation / Incentive structure
4. Organization
5. Emotional intelligence / social competence
6. Composition and involvement of boards

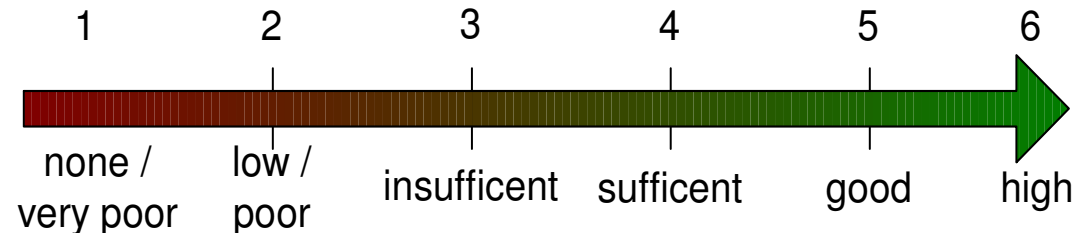


Market environment

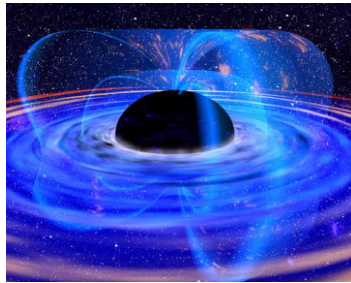


Industry Structure: (Five forces by Michael Porter)

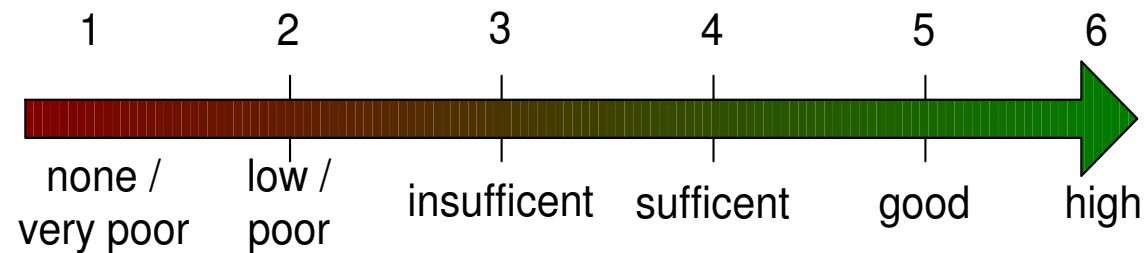
1. Threat of new Entry
2. Rivalry among existing competitors
3. Pressure from substitute products
4. Dependencies on customers
5. Dependencies on suppliers
6. Current and future market potential
7. Customers
8. Political / legal dependencies
9. Cost and Sales estimations



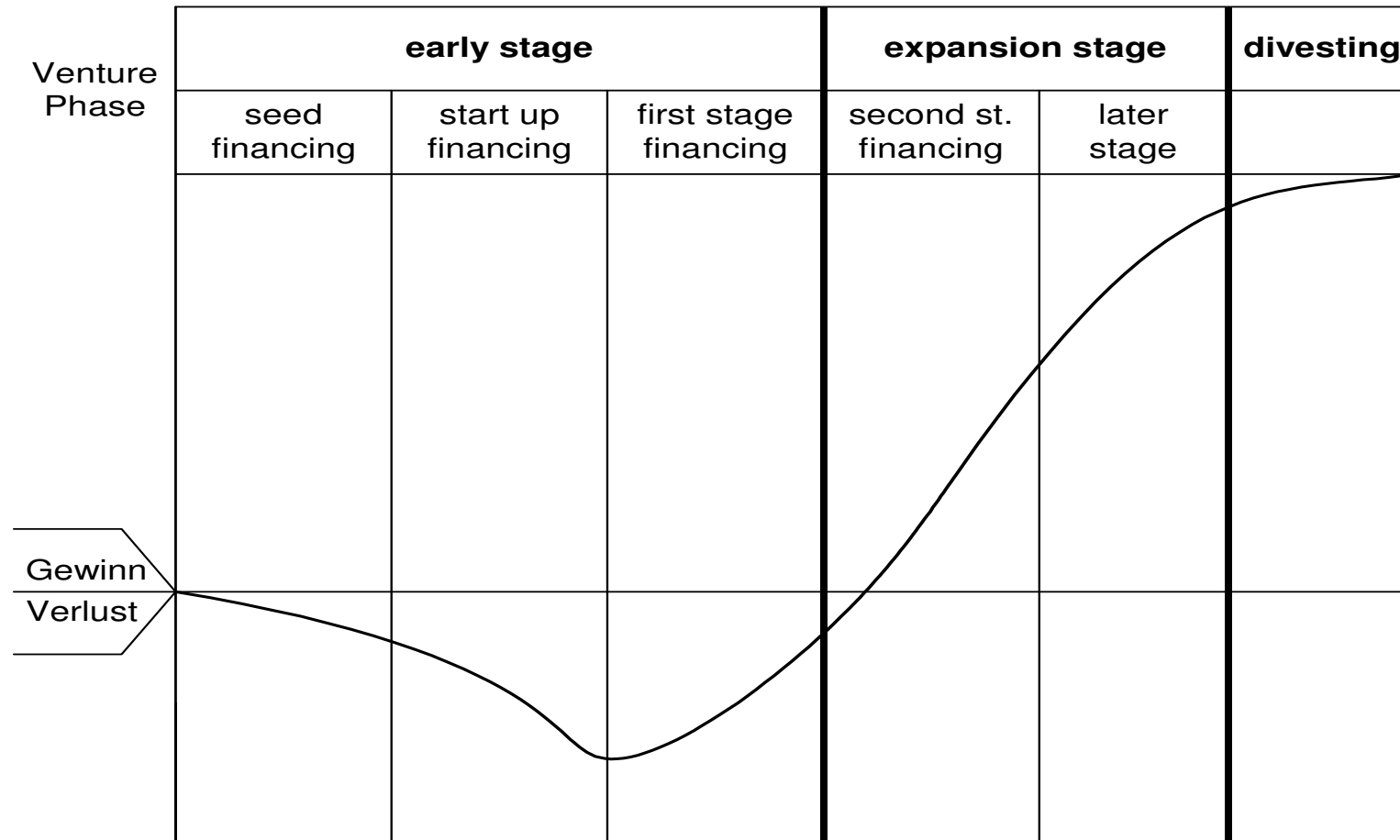
Product, Sciences & Technology



1. Intellectual Property (IP)
2. Unique selling proposition
3. Alliances/partnerships
4. Management of future discoveries
5. Time to market



Company stages



Quelle: Schmidtke.

Traditional Valuation Methods

- Asset valuation method
- Price/earning value
- Stuttgarter / Accountant Procedure (combination of asset value and earning-capacity value)

⇒ Young high-growth companies?

High growth companies

- Often no revenues / earnings
- Value = potential of the future and associated risk
- Influence factors:
 - Management
 - Market
 - Science and Technology
 - Stage of company

Used Methods

- Cash Flow based Method (DCF)
- Relative valuation Method
- Venture Capital / Exit based Method
- Decision Tree Valuation Method
- Option pricing Method

Cash flow based valuation



- Machine to produce one 100 USD bill per year
- Risk = 0
- No input needed
- Interest rate = 10%

Value of machine?

$$\Rightarrow 100/0.10 = 1000$$

Liquidation Value



- Machine made of 24 carat pure gold
- weights exactly one kg
- Gold: USD 400 / kg

Value of machine?

Liquidation value: 400 USD

⇒ Continue use: 1000 USD

Relative valuation



- no known market price for gold
- similar USD 100-machines have traded
- 9 and 15 times their estimated annual output

Value of machine?

=> Value range 900 USD to 1'500 USD

Market Comparable



Company Value:
EUR 10 m
50 employees

Ratio



- Revenues
- Earnings
- EBITDA
- Employees
- Company specific factors



10 employees
⇒ Company Value:
EUR 2 m*

* $(10/50) \times 10 \text{ m} = 2 \text{ m}$

Exit valuation (VC valuation)

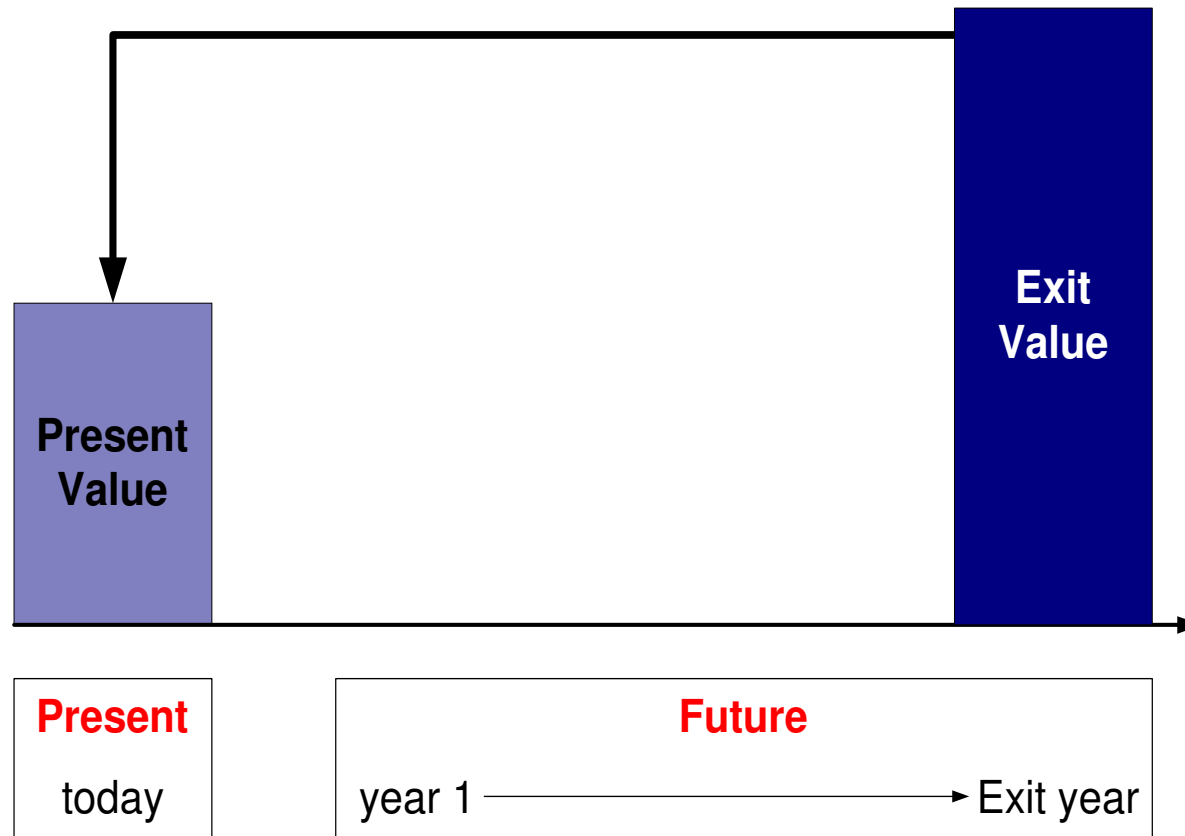
EXIT

- Value of machine in 5 years is 1'800 USD
- Machine will produce USD bills from year 6
- 50% probability machine will break in first 5 years

Value of machine?

=> USD 1'800 * 50% = 900 USD

Venture Capital Method



Summary Company Valuation



Cash flow based	1'000
Market comparable	900 - 1'500
Exit value	900
Average (value)	1'033

Price vs. Value:









1. Collector is prepared to pay 1'600
2. Nobody is interested

Conclusions



- Valuation is a process
- You can value a licensing deal or a company
- Assumptions are key => assessment
- Assessment:
 - 1) management
 - 2) market environment and
 - 3) products, science and technology
- Determinants of valuation: potential / risk
- Price is not the same as value

Biotechgate.com

		Biotech	Biotech Instr. & Services	Biotech related	Med Tech	Investor
	Austrianbiotech.com	16	32	13	11	3
	Canadianlifesciences.com	142	62	162	23	12
	Frenchbiotech.com	70	136	19	12	28
	Germanbiotech.com	117	288	77	69	2
	Indianbiotech.com	13	117	202	5	45
	Italianbiotech.com	42	75	126	35	6
	Sweden	24	50	13	27	4
	Swisslifesciences.com	49	145	99	326	43
	Total (biotechgate.com)	532	953	725	514	146

In total there are over **5'000 companies** in the database.

Partners for Biotechgate.com



Canada's Voice for Biotechnology
Le porte-parole canadien de la biotechnologie



SI SviluppoItalia

Italian Institute for Foreign Trade

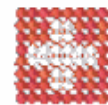


ASSOBIOTEC
FEDERCHIMICA

Associazione Nazionale per lo sviluppo delle biotecnologie



Screen shots - overview



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Sponsors:



Information

Company name

City, Canton

Sector

Subsector

**Target diseases,
medical needs**

**Products*
Dev. | Mkt.**

**No. of
empl.**

Actelion Pharmaceuticals, Ltd.	Allschwil, BL	Biotechnology	Therapeutics - Other	Cardiovascular	4 1	550
				CNS - Alzheimer		
				Metabolic - Obesity		
				Cancer		
Addex Pharmaceuticals	Plan les Ouates, Geneva, GE	Biotechnology	Therapeutics - Other		0 0	0
Anergis AG	Epalinges, VD	Biotechnology	Therapeutics - Other		0 0	0
Aponetics AG	Witterswil, SO	Biotechnology	Therapeutics - Other	Cancer	0 0	12
				Autoimmune		
Apotech Corporation	Epalinges, VD	Biotechnology	Other	Inflammation	0 0	12
Apoxis SA	Epalinges, VD	Biotechnology	Gene & Cell Therapy	Cancer	9 0	2
				Autoimmune		

Screen shots - detail


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Sponsors:

The logo for VentureValuation, featuring a large blue 'V' with the text 'VentureValuation' written vertically in white on the right side of the 'V'.

Detailed Description [Print this site](#)

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General Description

Company Name	Arpida AG
Street	Dammstrasse 36
P.O. Box	
ZIP/Place/Canton	4142 Münchenstein, BL
Country	Switzerland
Contact Person, Function	Dr. Dieter Gillessen, COO
Contact Phone	+41 (61) 417 96 60
Contact Fax	+41 (61) 417 96 61
Contact E-Mail	dqillessen@arpida.ch
Website	www.arpida.com

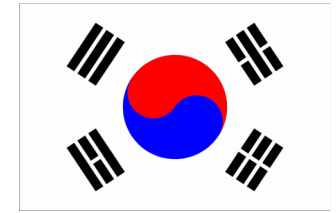
Screen shots - detail

Founded	1997
Source of Foundation	HBM BioVentures (formerly NMT) and University projects
Number of Employees	40
Number of Ph.D.s	16
Description of Activities	Arpida is a therapeutically focused "second generation" company using an integrated multidisciplinary approach - genomics-assisted selection of targets, innovative assays, high throughput screening, parallel synthesis for lead optimisation, in vitro metabolism and cell lines for toxicity and absorption. The company has several enabling technologies, discovery programs, chemical leads, development and clinical candidates.
Status of Ownership	Private
Remarks	
Categorization	
Sector	Biotechnology
Subsector	Therapeutics - Antibiotics
Target diseases/ medical needs	Infectious Bacterial
Business model description	R&D Out-licensing

Screen shots - detail

Description of products on the Market	Clinical candidate: Iclaprim (formerly known as AR-100): Research compound in-licensed from Roche Pharmaceuticals. Iclaprim has successfully completed Phase I clinical trials and is currently in Phase II clinical trials. The compound exhibits potent in vitro and in vivo activity against life-threatening antibiotic-resistant Staphylococci and respiratory tract pathogens.
Technology Position	
Special IP situation	
Name and description of technology platforms used	Molecular biology and development of novel screening systems
Financials	
Money raised to date	CHF 55'000'000
Financing details	in July 1998 raised 15 million CHF in a first round of financing. The company has raised a further 40 million CHF in an oversubscribed second round of financing in September 2000. Arpida's investors include HBM BioVentures, HealthCap, 3i, Alta Berkeley, CDC, FTQ, Aventic and Partners Group.
Sales	-

Korean Biotech Database



- To establish a national Biotech Database for Korea
- Find local partners that support database
- One partner or 5-6 partners/sponsors

=> www.koreanbiotech.com

Partneringgate.com



BioTrinity
Oxfordshire
Wed 28.03.2007



BIO-Europe Spring 2007
Milan
Mon 05.03.2007 - Wed 07.03.2007



BIOCOM Investor Conference
San Diego
Tue 14.11.2006 - Wed 15.11.2006



Bench 2 Boardroom 2006
Cambridge
Wed 18.10.2006



Swiss-Scandinavian Bio-Business Seminar
Zurich
Fri 13.10.2006



JETRO BIOLINK FORUM 2006
Osaka
Wed 13.09.2006 - Fri 15.09.2006

BioDevice Partnering
Edinburgh
Tue 13.06.2006 - Wed 14.06.2006