

# THE ATTRACTIVENESS OF THE HEALTH CARE LOGISTICS MARKET

CNS Partnering Conference

May 4th, 2010

**NOVUMED**<sup>®</sup>  
LIFE SCIENCE  
CONSULTING



San Francisco    Munich

# HEALTH CARE LOGISTICS ARE HIGHLY ATTRACTIVE – BUT MOST LOGISTICS COMPANIES LACK DEDICATION

## Selected Quotes

*“Our airline’s cargo business is dramatically suffering from the global crisis. Our only revenue increase is in pharma logistics.”* *Cargo Airline Manager, Feb. 2009*

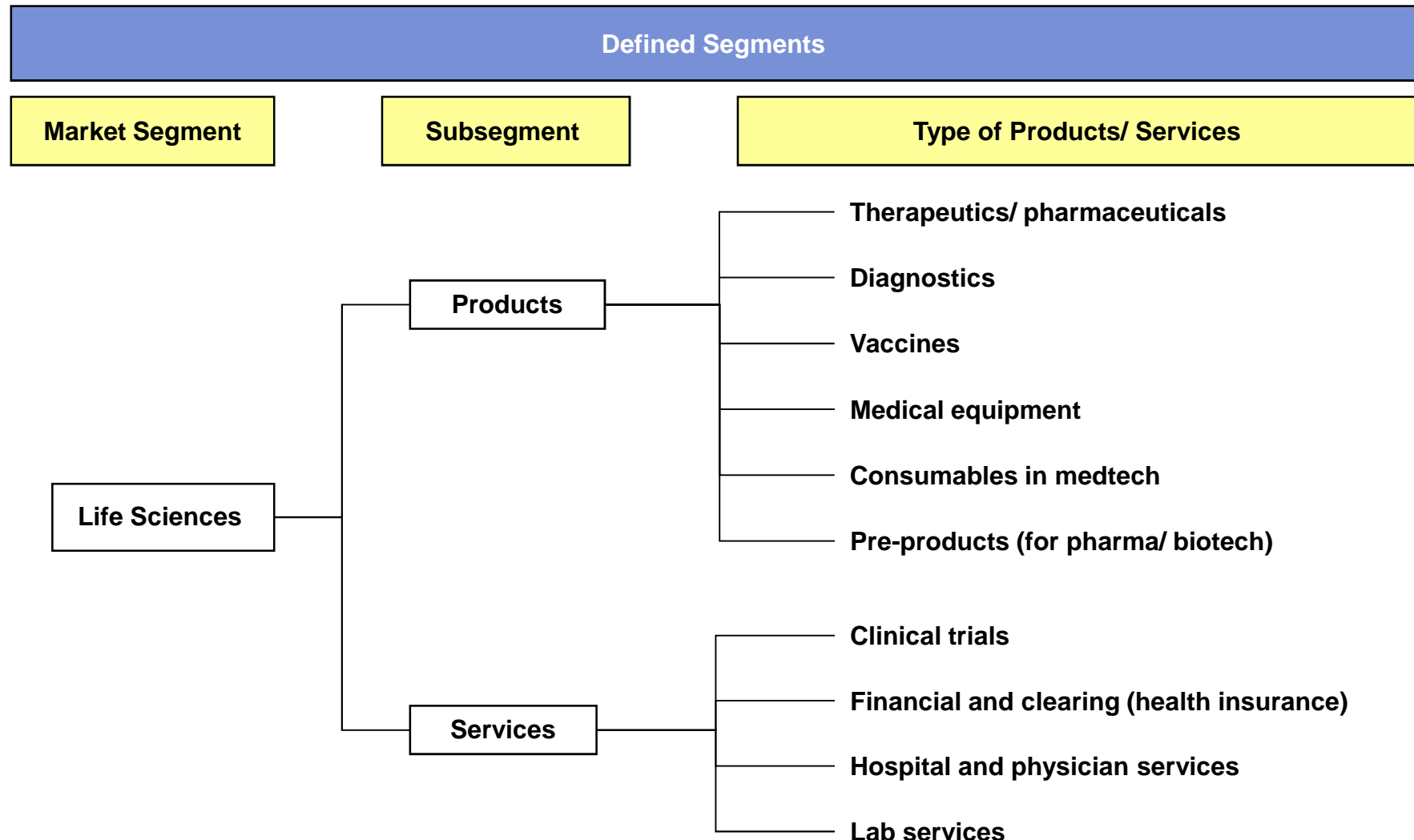
Apax Capital Partners acquired clinical trial logistics specialist Marken Ltd. for US\$1.6 bn at a high valuation **FINANCIAL TIMES** December 2009

*“I know almost all the big logistic players and their activities in temperature sensitive pharma transports. Most of them choose a rather opportunistic approach and never make the effort to analyse the true potential.”*

*Perishable facility manager at large airport, March 2009*

# THE LIFE SCIENCE MARKET CAN BE SEGMENTED INTO PRODUCTS AND SERVICES

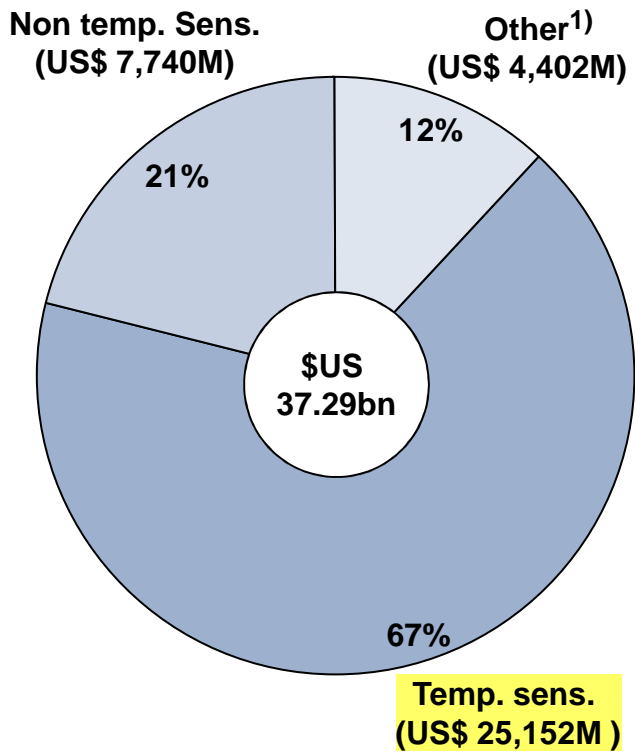
## Segmentation of the Life Science Market by Products and Services



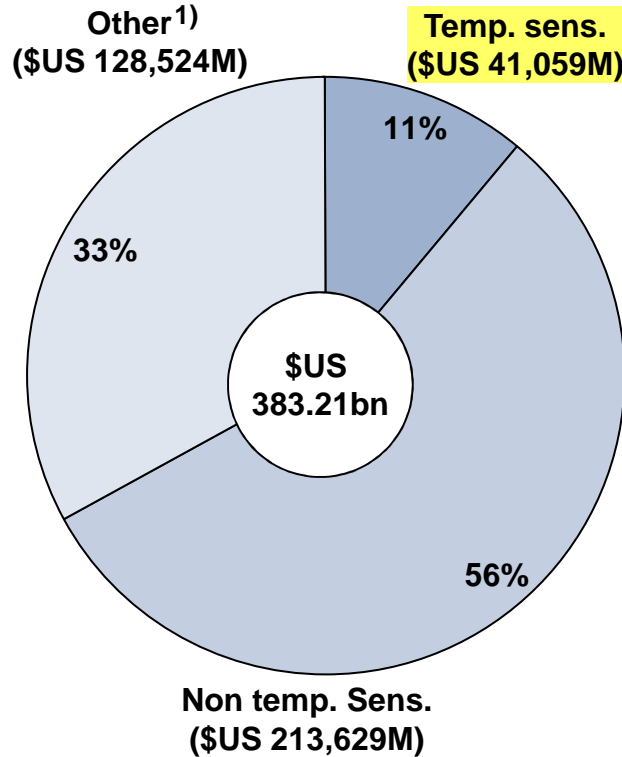
# 19% OF ALL PRODUCTS IN THE PHARMA AND DIAGNOSTICS MARKETS ARE TEMPERATURE SENSITIVE

Novumed analysed the global top products to describe temperature sensitivity

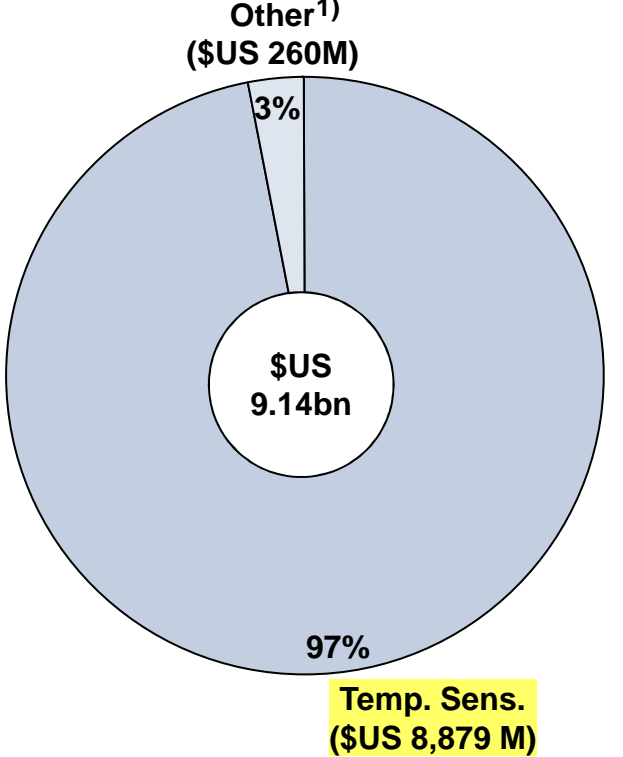
Accumulated Sales of Global Top 27 Biotech Companies



Accumulated Sales of Global Top 36 Pharm. Companies



Accumulated Sales of Global Top 15 Vaccine Companies



1) Potentially containing further temp. sens. products  
 Source: Novumed analysis  
 10-05-04 CNS Conference HC Logistics-JL

# SOME LARGE PLAYERS WITH VERY FEW TARGET PRODUCTS...

## Example Novartis: Top 10 Products (Pharma Sector) by Temperature Sensitivity



Product	Type	Temp. Sens.	Price (in USD) <sup>(1)</sup>			N° (Mio.)	Ww Sales 08 (US\$ Mio)	Manufacturing Plant/ Distribution	
			Ø	Min.	Max.				
Diovan	Chem.Therap.	RT 20-25°C	93	36	150	61,7	5.740	<ul style="list-style-type: none"> <li>➤ Switzerland: Basel, Schweizerhalle (Prod.), Stein (Prod.)</li> <li>➤ Germany: Marburg (R&amp;D and Vaccine Prod.) Wehr (Pharma Prod.)</li> <li>➤ USA: Broomfield, CO (Gx-Prod. (Sandoz)), Emeryville, CA (Chiron Prod.), Holly Springs, NC (Vaccine Prod.)</li> </ul>	
Gleevec	Chem.Therap.	RT 15-30°C	7.600	2.330	12.869	0,5	3.670		
Zometa	Chem.Therap.	RT 15-30°C	1.115	448	1783	1,2	1.382		
Femara	Chem.Therap.	RT 15-30°C	775	766	785	1,5	1.129		
Sandimmun	Chem.Therap.	RT <25°C	418	84	752	2,3	956		
Exelon	Chem.Therap.	RT <30°C	315	181	449	2,6	815		
Voltaren	Chem.Therap.	RT <30°C	49	9	89	16,6	814		
Lescol	Chem.Therap.	RT 15-30°C	46	30	63	13,9	645		
Subtotal non temp.-sens.							15.151		58%
Sandostatin	Chem.Therap.	2-8°C	5.512	329	10.695	0,2	1.123		
Lucentis	Biol. Therap.	2-8°C	1.685	1685	1.685	0,5	886	7%	
Subtotal temp. sens.							2.009		
Total Top 10							17.160	35%	
Other <sup>2)</sup>							9.171		
Total Pharma Sales <sup>2)</sup>							26.331	100%	

1) Price range incl. min. and max. Price per Package (pharmacy retail price; all sizes and formulations) in Germany (1 EUR = 1, 30USD)

2) Original Supplements only (without Sandoz/Hexal, without Diagnostics and Vaccines, without Consumer Health)

Source: Novumed analysis

# ...WHEREAS OTHERS HAVE QUITE ATTRACTIVE PORTFOLIOS

## Example Wyeth: Top 10 Products (Pharma Sector) by Temperature Sensitivity



Product	Type	Temp. Sensivity	Price (in USD) <sup>1)</sup>			N° (Mio)	Ww Sales 08 (US\$ Mio)	Manufacturing Plant/ Distribution	
			Ø	Min.	Max.				
Effexor	Therap. Chem.	RT 20-25°C	207	23	392	18,9	3.982	<ul style="list-style-type: none"> <li>➤ USA: Andover, MA (Prod. (ReFacto, Benefix), Pearl River, NY (R&amp;D and Prod., Sanford, NC (R&amp;D and Prod.))</li> <li>➤ Ireland: Grange Castle (Prod. (Enbrel, Plevnar))</li> <li>➤ Spain: Algete (Prod., Pre- and intermediate goods.)</li> </ul>	
Premarin	Therap. Chem.	RT 20-25°C	48	33	64	22,1	1.070		
Protonix	Therap. Chem.	RT 15-30°C	75	23	127	10,7	806		
rhBMP-2 <sup>2)</sup>	Therap. Biol.	RT 15-30°C	4.952	4.952	4.952	0,1	390		
Leios	Therap. Chem.	RT <30°C	45	22	67	8,7	386		
Subtotal non temp. sens.							6.580		40%
Enbrel	Therap. Biol.	2-8°C	4.010	1.166	6.854	0,9	3.798		
Zosyn	Therap. Chem.	2-8°C, RT, -20°C <sup>3)</sup>	499	499	499	2,5	1.264		
BeneFIX	Therap. Biol.	2-8°C	1.818	414	1.818	0,3	587		
Rapamune (sol.)	Therap. Chem.	2-8°C, RT <sup>3)</sup>	1.533	697	1.533	0,2	376		
ReFacto	Therap. Biol.	2-8°C <sup>4)</sup>	1.751	399	1.751	0,2	363		
Subtotal temp. sens.							6.388	39%	
Total Top 10							12.968		
Other							3.342	21%	
Total Sales (without Vaccine Plevnar)							16.310	100%	

1) Price range incl. min. and max. price per package (pharmacy retail price; all sizes and formulations) in Germany (1 EUR = 1,30USD)

2) Price of InductOs (= rhBMP-2/ACS = recomb. human bone morphogenetic protein-2/absorbable collagen scaffold)

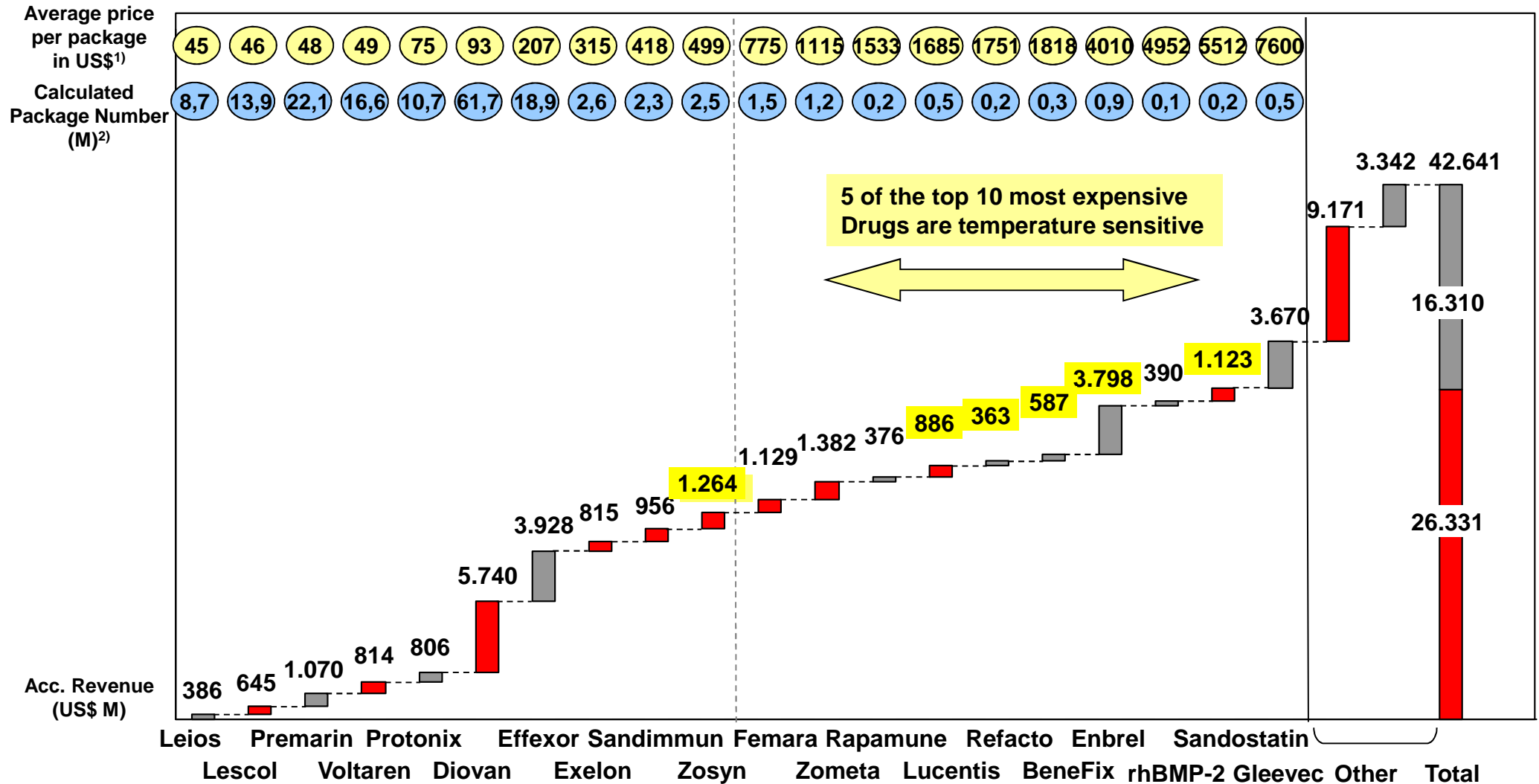
3) Different temperatures depending on pharmaceutical form; cool storage is recommended

4) Storage at RT <25°C is possible up to 3 month

Source: Novumed analysis

# ESPECIALLY EXPENSIVE DRUGS ARE TEMPERATURE SENSITIVE

## Cumulated Sales of the Top 10 Pharma Products of Novartis and Wyeth 2008



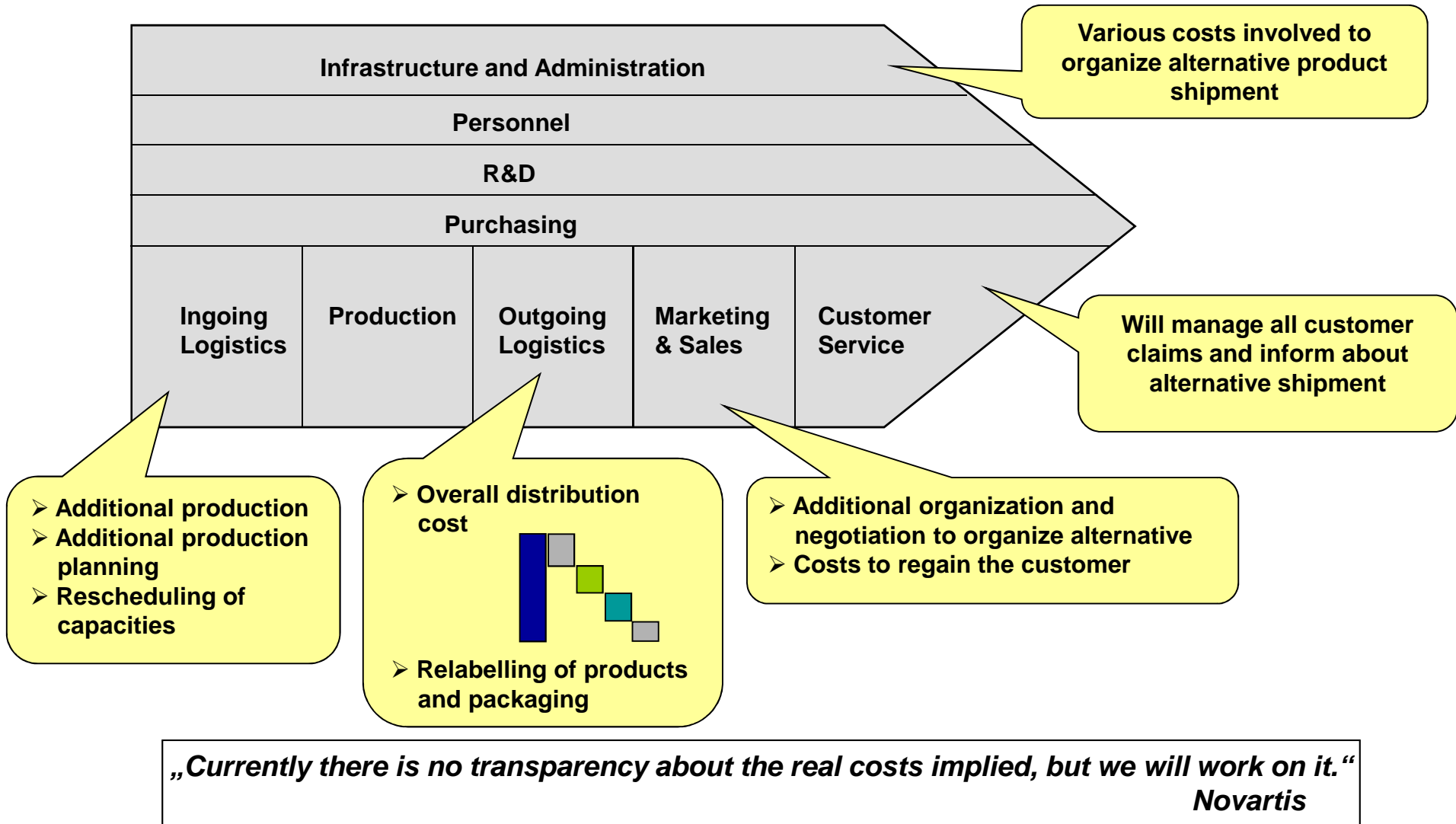
1) Calculated using min. and max. retail prices of pharmacy per package (all sizes and formulations; 1 EUR = 1,30 USD)

2) Deduced by dividing revenue through average package price

Source: Novumed analysis

10-05-04 CNS Conference HC Logistics-JL

# IMPROPER TRANSPORTS CAUSE A HIGH COST IMPACT ALONG THE VALUE CHAIN





# THERAPEUTIC ANTIBODIES ARE HIGHLY SENSITIVE AND THEIR VALUE CAN REACH SEVERAL MILLIONS FOR A SINGLE CONTAINER

## Cost Example Avastin® (Roche)

### Product Details



- **Avastin®: Humanized monoclonal antibody to treat breast-, kidney-, lung- or colorectal cancer**
- **Annual Sales 2012: US\$ 15.4bn**
- **Market Leader with double digit growth rates**
- **Time consuming biotechnology productions (many weeks)**
- **Sales price of 1 package (1 Vial) = US\$ 2,522**

### Storage



- **Avastin is one of the most sensitive antibodies**
- **Constant storage at 2-8°C**
- **Temperatures below 0°C will destroy product**
- **Protect from light**
- **Shelf-life of 24 Months**

### Costs implied



- **Approx. 34 US\$ M Product value for 1 full LD3 Container**
  - 1 LD3 Container = 2.93 m<sup>3</sup>
  - 1 Package = 188 cm<sup>3</sup> (5.3cm x 5.3 cm x 6.7cm)
  - Approx. 13,500 packages/LD3 (incl. storage space)

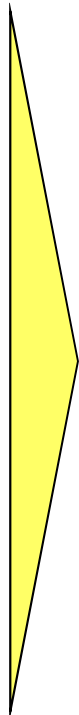
The Loss of a single LD3 container would generate additional costs of approximately **US\$ 34M**

# ANY DELAY OF A DRUG'S MARKET LAUNCH MAY RESULT IN HIGH FINANCIAL LOSSES

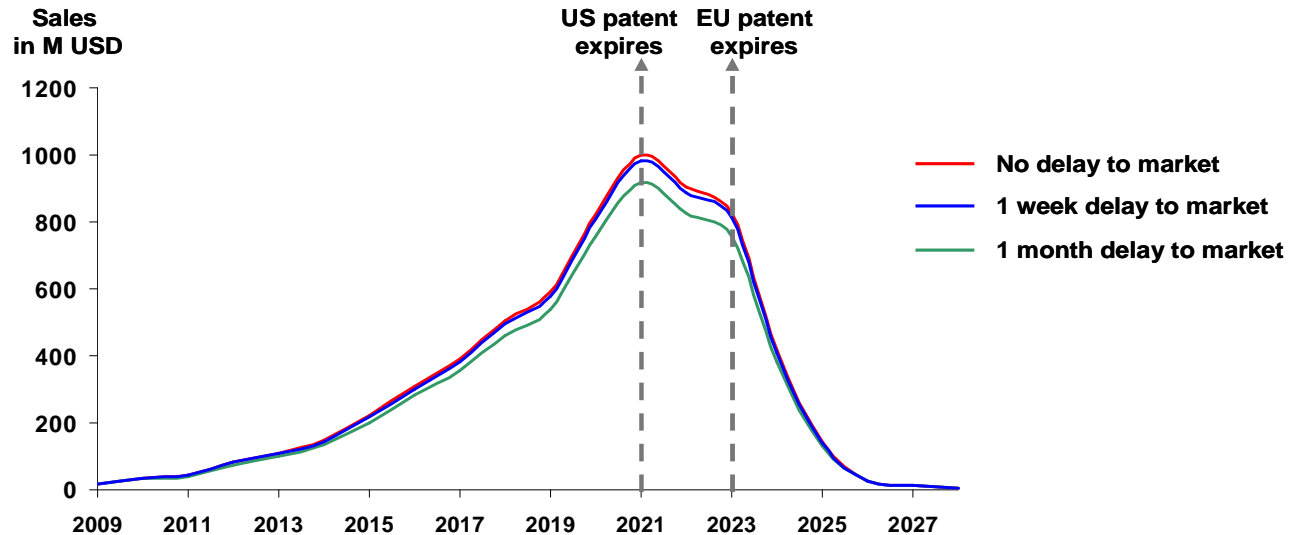
There is a low Pricing Sensitivity within the Trial Drug Segment

## Key considerations for shipment of clinical trial drugs

- Their relative value can be deduced by the incurring costs of a faulty shipment and delay of the product launch
- Clinical trials (I-III) may cost between 50m to 500m \$US



## Example sales curve of blockbuster drug with peak sales of 1bn \$US



	Cumulated sales 2009 - 2028 (M USD)	Loss of cumulated sales through delay (M USD)
No delay to market	6.610	-
Delay to market 1 month	6.059	551
Delay to market 1 week	6.484	126
Delay to market 1 day	6.585	25



A delay of just one day to launch a blockbuster drug on time may cost \$25 m in lost sales

# Novumed Life Science Consulting

## Growth strategies for:

- Pharma / Biotech
- Medtech / Diagnostics
- Health Care Logistics

**Free**  
Download the 200 best selling drugs  
to your I-Phone or Blackberry!  
[www.novumed.com](http://www.novumed.com)

### Office USA:

#### **Novumed LLC**

19925 Stevens Creek Blvd., Suite 100  
Cupertino, CA 95014 - USA  
[info@novumed.com](mailto:info@novumed.com)



### Office Europe:

#### **Novumed GmbH**

Mandlstraße 22  
80802 München - Germany  
[info@novumed.com](mailto:info@novumed.com)

