

# Biotechnology Market Overview

June 2011



**Bourne Partners**



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Bourne Capital Partners, LLC

**Global Healthcare Merchant Banking & Financial Advisory**

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## Table of Contents

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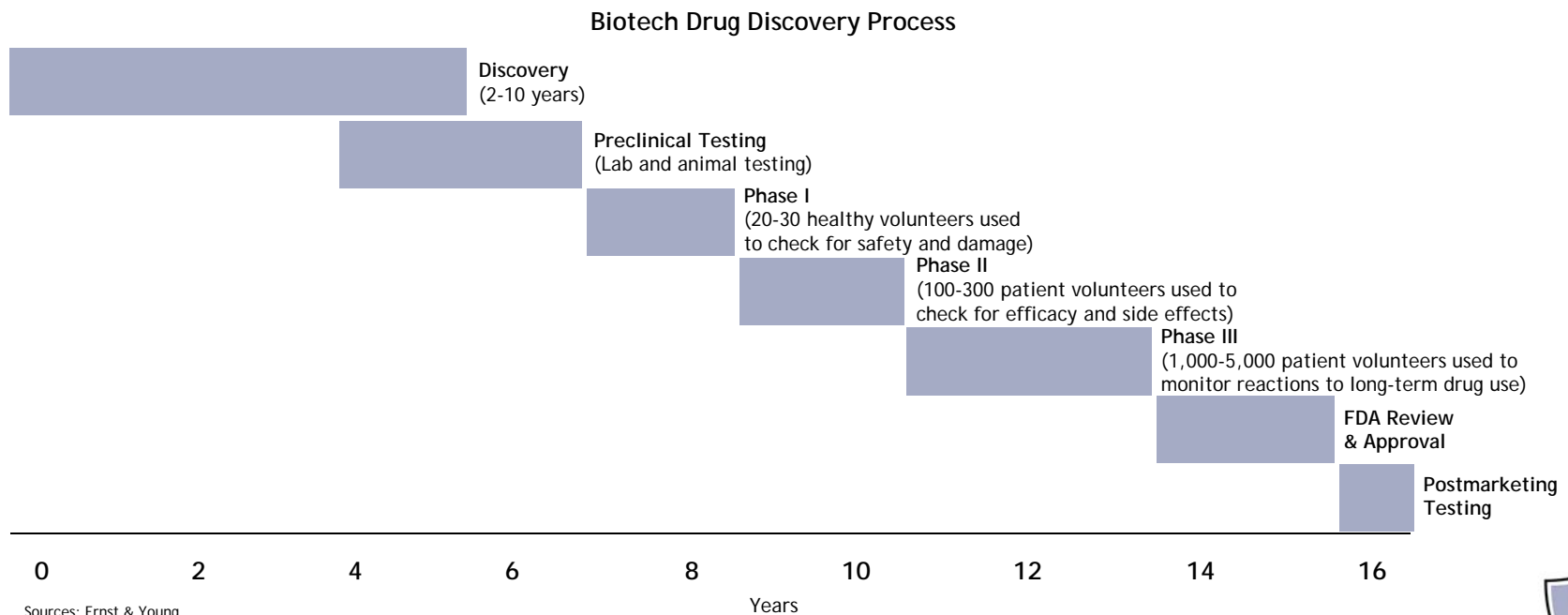
- I. Global Market Overview
- II. United States Biotechnology Market Overview
- III. European Biotechnology Market Overview
- IV. Looking Ahead through 2011 and Beyond

# Global Biotechnology Market Overview

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# Global Biotechnology Market

- The global biotechnology market has traditionally been a capital intensive industry with a long path to commercial payback, as shown in the timeline below
- Emerging from the economic downturn, the global biotech industry was reshaped in 2010:
  - Capital flows are more constrained, though aggregate funding levels have rebounded
  - Finding efficiencies has become a center of attention amid corporate restructuring
  - Pipeline development efforts are more focused, with some projects delayed or canceled



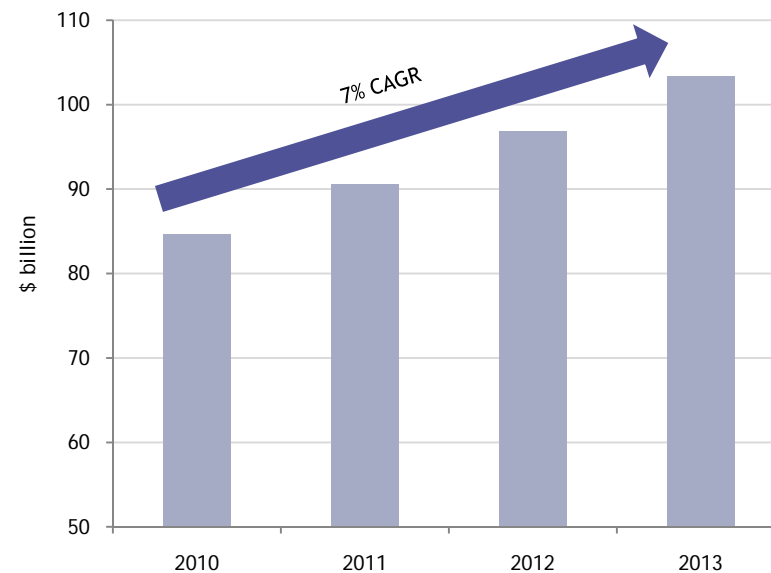
# Global Biotechnology Market

- The global biotech industry, led by the United States, was \$84.6 billion in 2010 and is expected to grow at a 7% CAGR to \$103 billion by 2013<sup>1</sup>, as a result of the following primary drivers:
  - Active participation by private players
  - Rising information technology innovation
  - Improving healthcare infrastructure worldwide

2010 Global Biotech Industry Revenue by Geography



Global Biotech Projected Revenue Growth

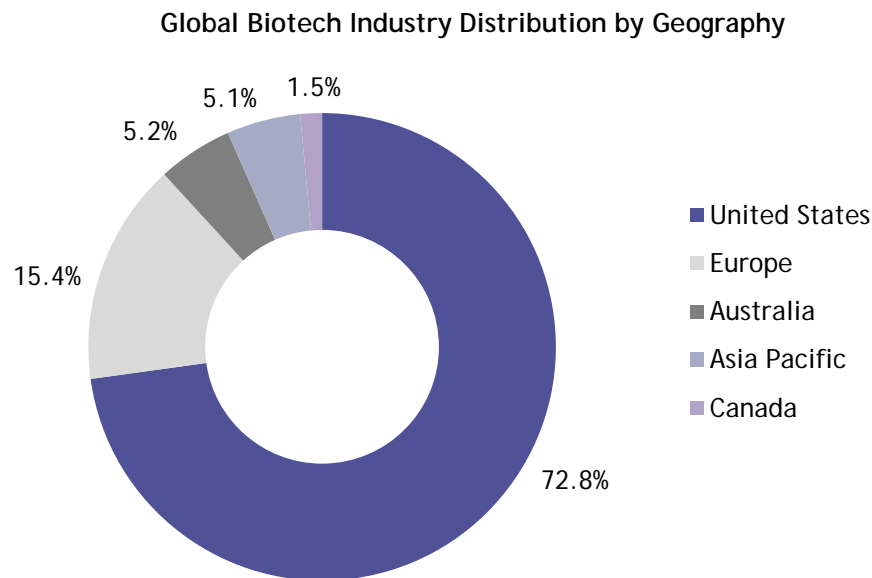


Sources: Ernst & Young, Burrill & Company  
<sup>1</sup>US Biotech Market Analysis, MarketResearch



# Global Biotechnology Market

- Despite the recent economic downturn, there was only a 10% decrease in the number of biotechnology companies worldwide through September 2010 from the year prior, a modest decline largely attributed to the stimulus of the United States
- The United States remains the bedrock of the biotech industry, though Europe and Asia are fast growing international markets

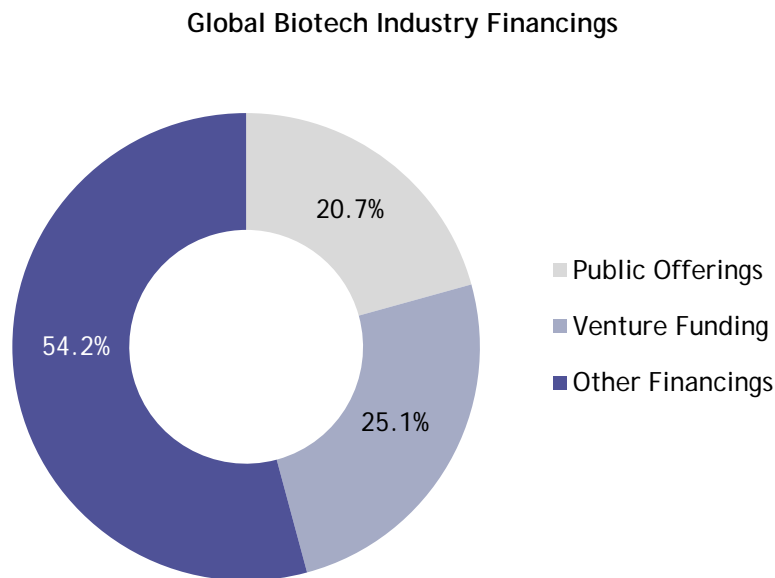


- Several European biotechnology companies have announced plans to outsource their manufacturing through collaborations with international partners, increasing production efficiencies and adding to corporate earnings growth
- The Asia-Pacific biotech market is projected to grow at a CAGR of 16% between 2010 and 2012<sup>1</sup>

Sources: Ernst & Young, Reuters  
<sup>1</sup>Asia Pacific Biotechnology Market (2008-2012), MarketResearch

# Global Biotechnology Financing

- The global biotechnology industry was able to weather the continued economic turmoil and deliver another strong financial performance in 2010, with the world's established biotech centers reaching profitability for the second year in a row<sup>1</sup>
- However, for the majority of firms, R&D funding has grown increasingly scarce which has continued to place additional pressure on the biotech business model

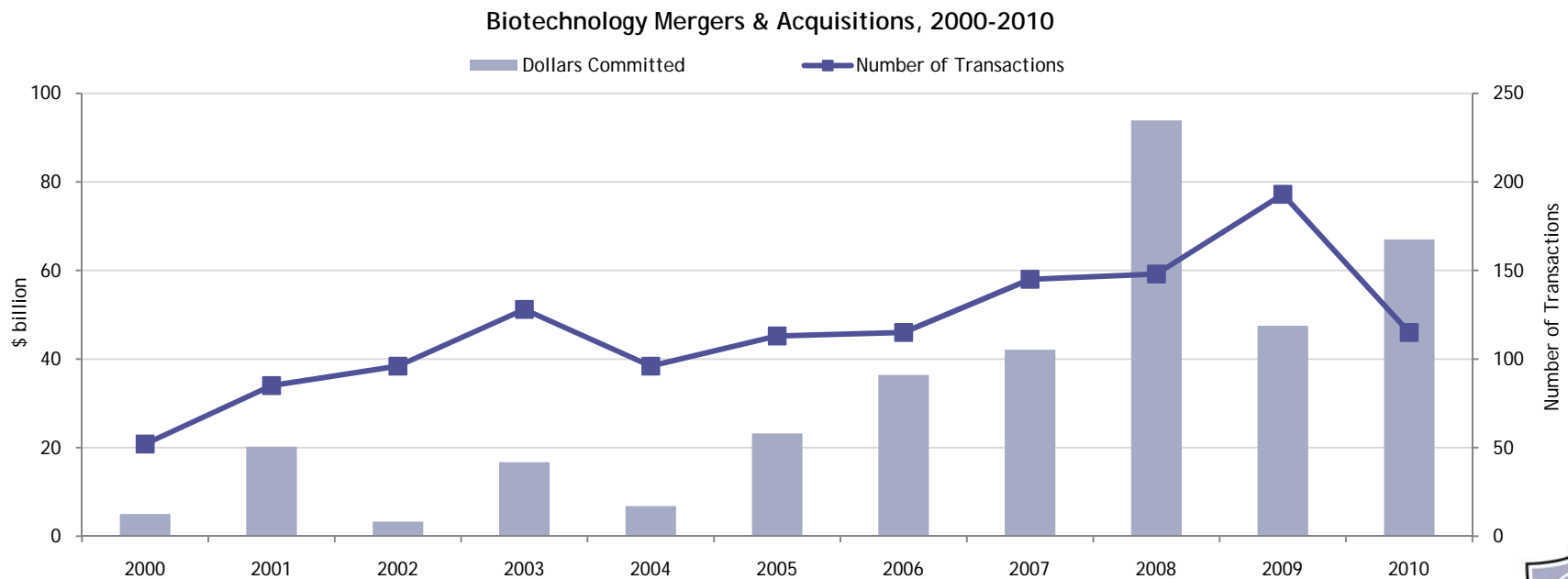


- As a percentage of global industry financing, IPOs have made up only a small portion of total funding
- Companies need to broaden the search for capital to include non-traditional (and non-dilutive) sources of funding
- Many biotech companies will need to reset valuation expectations for today's markets and take funding when it is available

Sources: Biotechnology Industry Organization, BioWorld, Ernst & Young  
<sup>1</sup>Biotech Industry Showing Resilience Despite Challenging Conditions, Ernst & Young

# Global Biotechnology Mergers & Acquisitions

- From 2000 to 2010, a total of 1,286 biotechnology M&A transactions were announced, with disclosed prices totaling more than \$362 billion
- In roughly 75% of the 25 largest biotechnology M&A deals announced during the 10-year period ended December 31, 2010, the target has been a revenue-producing biotech company
- Among all biotechnology M&A announced from 2000 to 2010, less than 20% of the companies targeted were producing any disclosed revenue at the time of acquisition

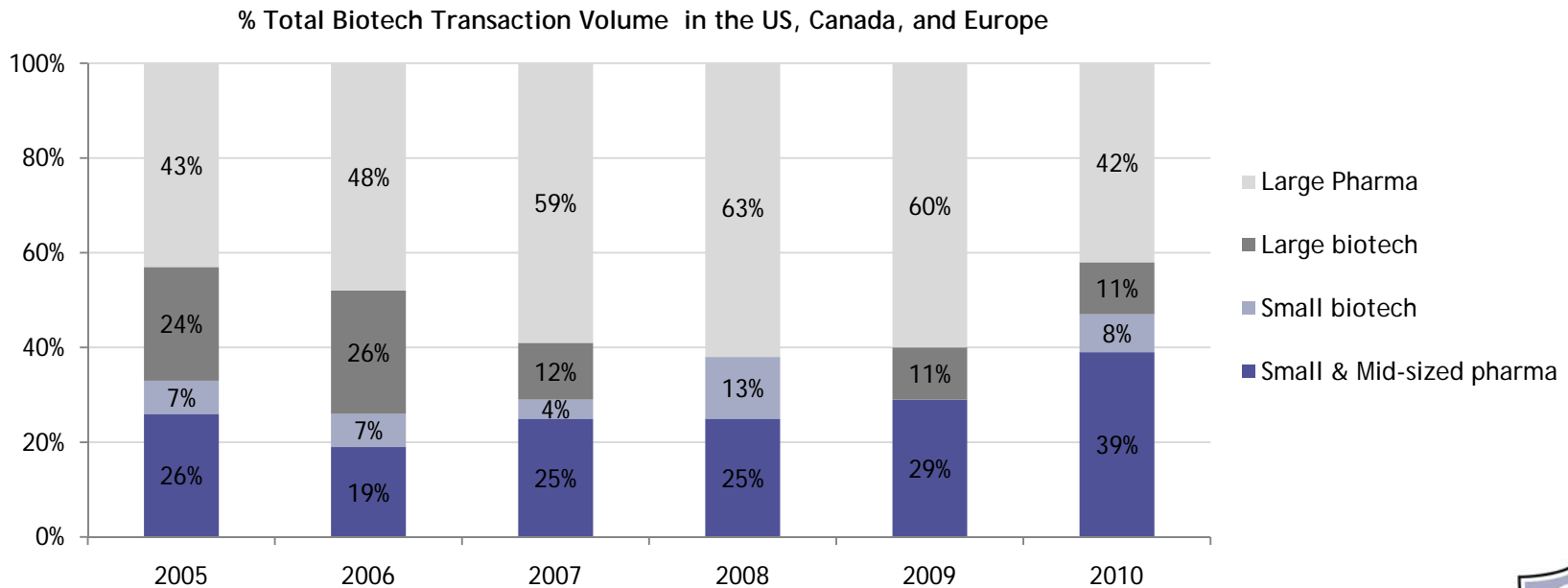


Source: Irving Levin Associates



# Global Biotechnology M&A Buyers

- Until 2010, large pharma companies had been by far the most important buyers of VC/PE backed biopharma, accounting for over 50% of total transaction volume in some years
- In 2010, large pharma's share of transaction volume decreased significantly to 42% from 60%, while small and mid-sized pharma grew from 29% to 39% of volume
- Over the past 5 years, small and mid-sized pharma have represented the largest increase among buyers of biotech companies, rising from 19% of total purchases to 39%



Sources: HBM Partners

## United States Biotechnology Market Overview

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# United States Biotechnology Overview

- Revenues of United States public companies rose to \$62 billion in 2010, a 10% increase from 2009
- The biggest development in the United States market was the continued profitability of publicly traded biotech companies, which rose from about \$3.7 billion in 2009 to \$4.9 billion in 2010, as a result of a few main factors:

United States Biotechnology at a Glance, 2009-2010 (\$ in billions)

	2010	2009	% change
<b>Public company data</b>			
Product Sales	52.6	48.1	9%
Revenues	61.6	56.2	10%
R&D Expense	17.6	17.1	3%
Net Income	4.9	3.7	33%
Market Capitalization	292.0	271.6	8%
<b>Financings</b>			
Capital raised by public companies	16.3	13.5	21%
Number of IPOs	15	3	400%
Capital raised by private companies	4.4	4.6	-3.2%
<b>Number of companies</b>			
Public companies	315	314	0.3%
Private companies	1,411	1,389	2%
Public and private companies	1,726	1,703	1%

Source: Ernst & Young

- United States companies now capitalize acquired in-process R&D as an asset instead of an expense
- The majority of companies that were acquired or ceased operations had been operating at a net loss
- Asset sales, tax benefits, milestones, and royalty payments, in addition to increased efficiencies at large biotech conglomerates, have accounted for the increased profitability during the challenging economic environment



# Select United States Biotech Trading Comps

\$ in millions, except for per-share amounts

Company	Ticker	Share Price	Shares Out	Equity Value	Net Debt (Cash)	Enterprise Value	LTM				CYE		CYE EPS	CYE+1 EPS	Book Value
							Sales	EBITDA	EBIT	EPS	Sales	EBITDA			
Amgen Inc.	NasdaqGS:AMGN	\$58.07	929.7	\$53,989.5	(\$4,451.0)	\$49,538.5	\$15,167.0	\$6,591.0	\$5,553.0	\$3.54	\$15,291.3	\$6,708.4	\$5.17	\$5.62	\$26.8
Cephalon Inc	NasdaqGS:CEPH	79.89	77.3	6,178.2	(98.5)	6,079.7	2,959.6	1,080.3	887.8	6.21	3,077.5	1,170.4	8.33	5.44	39.0
Emergent BioSolutions, Inc.	NYSE:EBS	22.71	35.5	806.4	(96.7)	709.7	257.9	48.6	41.6	1.59	322.3	58.0	1.06	1.23	10.0
Biogen Idec Inc.	NasdaqGS:BIIB	99.38	241.6	24,013.4	(28.2)	23,985.2	4,810.9	2,030.3	1,666.1	3.87	4,770.0	2,360.1	5.89	6.20	23.2
United Therapeutics Corporation	NasdaqGS:UTHR	54.37	58.1	3,157.6	(374.4)	2,783.2	640.6	194.0	174.8	1.71	748.9	305.0	3.65	4.49	15.9
InterMune Inc.	NasdaqGS:ITMN	34.99	59.2	2,071.0	(169.3)	1,901.7	259.6	133.8	131.8	1.41	31.6	(122.2)	(2.54)	(1.18)	3.0
Myriad Genetics Inc.	NasdaqGS:MYGN	23.21	85.7	1,989.7	(361.2)	1,628.5	388.6	160.7	153.6	0.91	399.1	165.7	1.09	1.26	6.1
Techne Corp	NasdaqGS:TECH	79.29	37.1	2,943.8	(213.9)	2,729.9	278.6	167.4	159.4	2.62	286.7	171.7	3.03	3.30	15.3
Celgene Corporation	NasdaqGS:CELG	59.77	462.8	27,661.6	(1,183.2)	26,478.4	3,959.8	1,439.6	1,243.2	1.61	4,520.9	2,046.1	3.44	4.08	12.7

Company	Ticker	FYE	Data as of	Margin Analysis			Enterprise Value/				P/E			Price to Book
				Gross Profit	EBITDA	EBIT	Sales	EBITDA	EBIT	Sales CYE	LTM	CYE	CYE+1	
Amgen Inc.	NasdaqGS:AMGN	31-Dec	21-Jun-11	85.0%	43.5%	36.6%	3.3 x	7.5 x	8.9 x	3.2 x	16.4 x	11.2 x	10.3 x	2.2 x
Cephalon Inc	NasdaqGS:CEPH	31-Dec	21-Jun-11	79.4%	36.5%	30.0%	2.1 x	5.6 x	6.8 x	2.0 x	12.9 x	9.6 x	14.7 x	2.1 x
Emergent BioSolutions, Inc.	NYSE:EBS	31-Dec	21-Jun-11	43.9%	18.8%	16.1%	2.8 x	14.6 x	17.0 x	2.2 x	14.3 x	21.4 x	18.5 x	2.3 x
Biogen Idec Inc.	NasdaqGS:BIIB	31-Dec	21-Jun-11	91.7%	42.2%	34.6%	5.0 x	11.8 x	14.4 x	5.0 x	25.7 x	16.9 x	16.0 x	4.3 x
United Therapeutics Corporation	NasdaqGS:UTHR	31-Dec	21-Jun-11	87.5%	30.3%	27.3%	4.3 x	14.3 x	15.9 x	3.7 x	31.7 x	14.9 x	12.1 x	3.4 x
InterMune Inc.	NasdaqGS:ITMN	31-Dec	21-Jun-11	97.7%	51.6%	50.8%	7.3 x	14.2 x	14.4 x	60.2 x	24.7 x	NM	NM	11.8 x
Myriad Genetics Inc.	NasdaqGS:MYGN	30-Jun	21-Jun-11	88.3%	41.4%	39.5%	4.2 x	10.1 x	10.6 x	4.1 x	25.5 x	21.3 x	18.4 x	3.8 x
Techne Corp	NasdaqGS:TECH	30-Jun	21-Jun-11	78.4%	60.1%	57.2%	9.8 x	16.3 x	17.1 x	9.5 x	30.2 x	26.2 x	24.1 x	5.2 x
Celgene Corporation	NasdaqGS:CELG	31-Dec	21-Jun-11	92.5%	36.4%	31.4%	6.7 x	18.4 x	21.3 x	5.9 x	37.1 x	17.4 x	14.7 x	4.7 x

\* All estimates from Capital IQ

NA - not available

NM - not meaningful

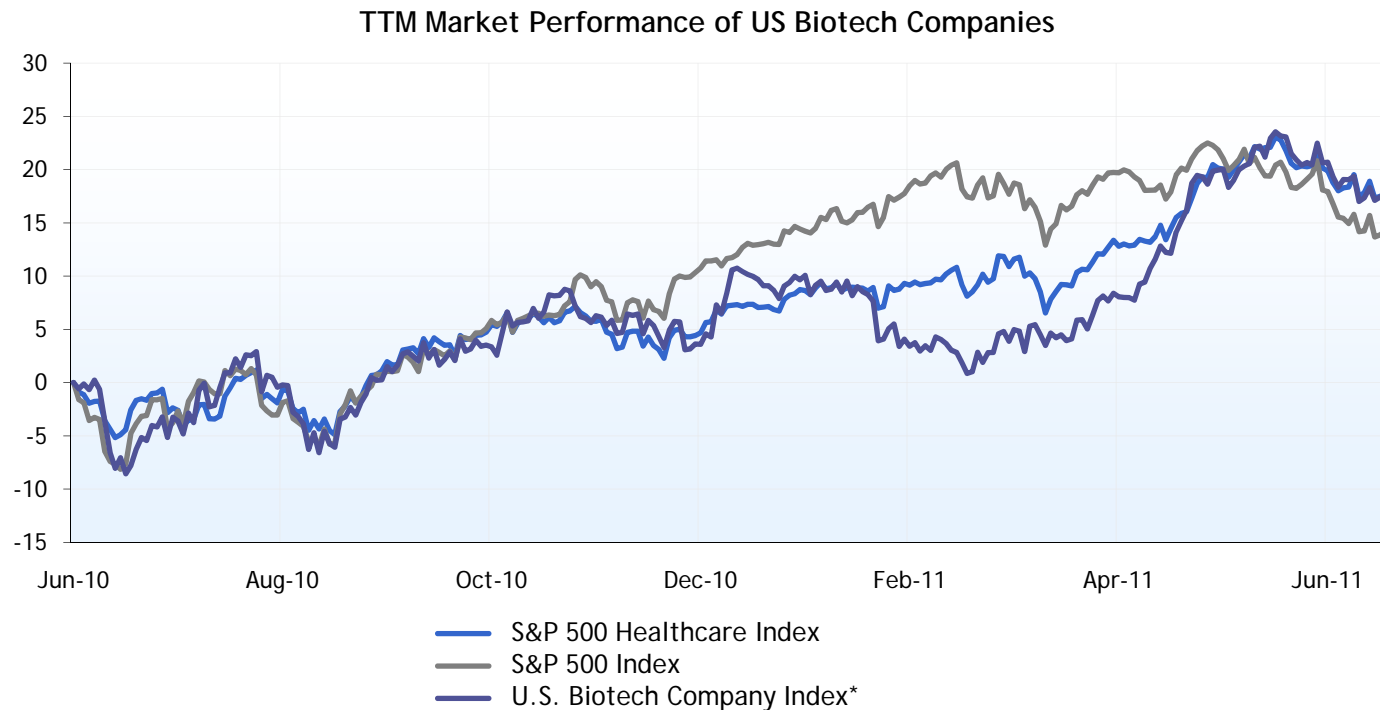
Median	87.5%	41.4%	34.6%	4.2 x	11.8 x	14.4 x	3.7 x	24.7 x	15.9 x	15.4 x	3.4 x
Mean	81.9%	37.7%	33.6%	4.1 x	11.2 x	12.6 x	11.5 x	21.6 x	15.9 x	15.0 x	4.3 x
Min	43.9%	18.8%	16.1%	2.1 x	5.6 x	6.8 x	2.0 x	12.9 x	9.6 x	10.3 x	2.1 x
Max	97.7%	51.6%	50.8%	7.3 x	14.6 x	17.0 x	60.2 x	31.7 x	21.4 x	18.5 x	11.8 x

- U.S. biotech companies are currently trading at median multiples of roughly 4x enterprise value/revenue and 12x enterprise value/EBITDA, with strong gross margins around 90%



# United States Market Comparison

- As illustrated by the indices below, the share price of the United States biotech companies index has grown at a fairly constant rate compared to both the S&P 500 and healthcare sector index
- The share price of the United States biotech companies index has slowly increased since mid-2010



\*U.S. Biotech Company Index comprised of companies from trading comps basket on previous slide

# United States Biotechnology M&A Activity

- United States companies accounted for approximately 42% of acquiring companies and 41% of targets in global biotech M&A deals in the mid-2000s
- Industry deal-making and takeover premiums have come down during the financial crisis
- In 2010, U.S. M&A activity dropped to the lowest level its seen over the past five years

United States Mergers & Acquisitions, 2005-2010

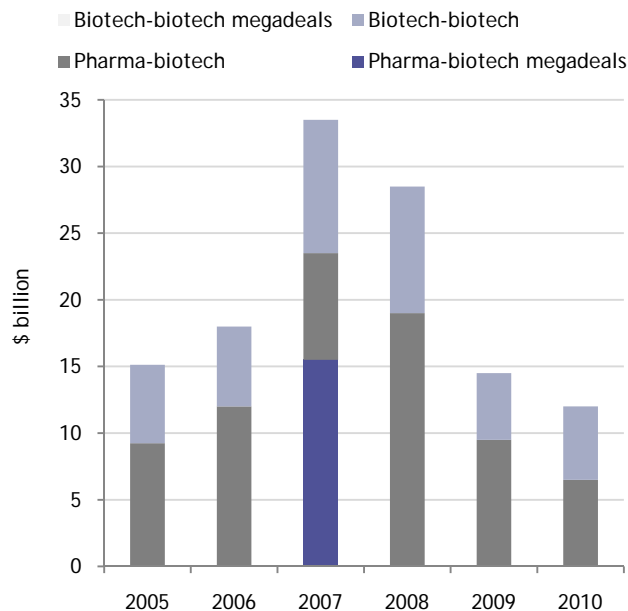


Chart excludes Roche's acquisition of Genentech  
Sources: Ernst & Young, Windhover Information, MedTRACK, BioWorld, and NewsAnalyzer

- In addition to addressing extended periods of equity underperformance, there is expected to be strong M&A activity in 2011 as large pharmaceutical companies look toward biotechnology companies to acquire new products and late-stage development pipelines in order to overcome expiring patents and dwindling pipelines
- In the beginning of 2011, the market has already been exposed to two major acquisitions
  - Sanofi's acquisition of Genzyme for \$20.1 billion
  - Daiichi Sankyo's acquisition of Plexxikon for \$935 million



# United States Biotech Transaction Comps

(\$ in millions)

Date Filed	Target	Buyer	Transaction Value	Implied EV	Total Revenue	EBITDA	Implied EV/Revenue	Implied EV/EBITDA
May-11	Advanced BioHealing, Inc.	Shire Pharmaceuticals, Inc.	\$851.4	\$831.9	\$161.4	\$27.2	5.2x	30.5x
May-11	Cephalon Inc. (NasdaqGS:CEPH)	TEVA Pharmaceuticals USA, Inc.	7,527.3	6,366.7	2,959.6	1,080.3	2.2x	5.9x
Apr-11	Orchid Cellmark Inc. (NasdaqGM:ORCH)	Laboratory Corp. of America Holdings (NYSE:LH)	84.0	66.7	66.2	1.5	1.0x	44.0x
Mar-11	Cephalon Inc. (NasdaqGS:CEPH)	Valeant Pharmaceuticals International, Inc. (TSX:VRX)	6,605.9	5,445.6	2,811.1	1,053.8	1.9x	5.2x
Dec-10	Surgical Biologics, Inc.	MiMedx Group, Inc. (OTCBB:MDXG)	7.0	7.0	1.6	0.2	4.5x	35.7x
Dec-10	Martek Biosciences Corporation	Royal DSM N.V. (ENXTAM:DSM)	1,087.9	1,024.1	450.0	123.2	2.3x	8.3x
Sep-10	Synthetech Inc.	W. R. Grace & Co.- Conn	18.6	17.2	12.6	0.1	1.4x	124.9x
Sep-10	ZymoGenetics Inc.	Bristol-Myers Squibb Company (NYSE:BMJ)	938.2	732.8	162.8	16.2	4.5x	45.3x
Jul-10	Genzyme Corporation	Sanofi (ENXTPA:SAN)	21,501.5	19,551.5	4,048.7	725.5	4.8x	27.0x
Jun-10	Talecris Biotherapeutics Holdings Corp.	Grifols USA, LLC	4,192.8	4,042.2	1,570.3	391.4	2.6x	10.3x
May-10	China Biologic Products, Inc. (NasdaqGS:CBPO)	Warburg Pincus LLC	39.0	294.4	125.0	71.4	2.4x	4.1x
Apr-10	SGM Biotech, Inc.	Mesa Laboratories Inc. (NasdaqGM:MLAB)	13.2	12.4	6.2	1.2	2.0x	10.8x
Apr-10	Green Planet Bioengineering Co. Limited. (OTCPK:GPLB)	ONE Bio Corp. (OTCBB:ONBI)	7.9	64.9	14.3	6.4	4.6x	10.1x
Feb-10	OSI Pharmaceuticals Inc.	Astellas US Holding, Inc.	3,946.4	3,415.8	441.1	176.0	7.7x	19.4x
Jan-10	Grifols, S.A. (CATS:GRF)	Capital Research and Management Company	93.1	3,771.8	1,250.9	362.0	3.0x	10.4x
Oct-09	Trimeris Inc. (NasdaqGM:TRMS)	Bynamic Co.,Ltd.	80.5	44.8	17.6	11.1	2.6x	4.1x
Jun-09	Cell Genesys, Inc.	BioSante Pharmaceuticals, Inc. (NasdaqGM:BPAX)	110.6	33.9	81.9	10.3	0.4x	3.3x
Jun-09	Green Planet Bioengineering Co. Limited. (OTCPK:GPLB)	ONE Bio Corp. (OTCBB:ONBI)	1.9	1.0	10.5	4.9	0.1x	0.2x
Mar-09	Rubicon Ltd. (NZSE:RBC)	Knott Partners	8.8	199.6	350.0	10.0	0.6x	20.0x
Feb-09	Arana Therapeutics Pty. Ltd.	Cephalon International Holdings, Inc.	163.4	89.2	29.0	4.6	3.1x	19.4x
Feb-09	Arana Therapeutics Pty. Ltd.	Cephalon International Holdings, Inc.	41.0	90.4	29.4	4.7	3.1x	19.4x

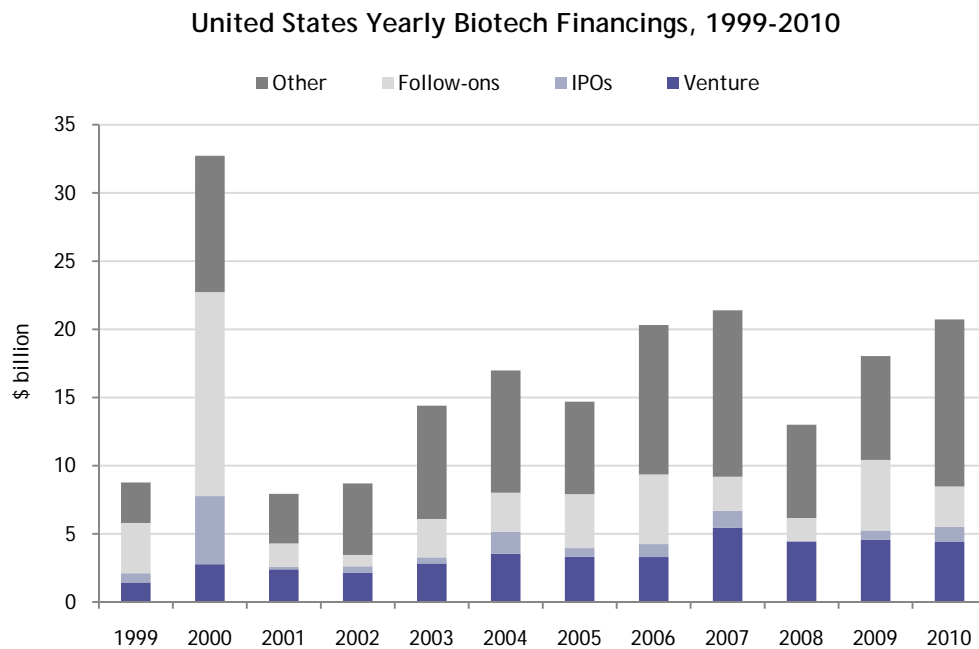
Median	\$199.6	\$125.0	\$11.1	2.6x	10.8x
Mean	2195.4	695.2	194.4	2.8x	21.8x
High	19551.5	4048.7	1080.3	7.7x	124.9x
Low	1.0	1.6	0.1	0.1x	0.2x

- U.S. companies that are focused in the biotechnology sector are currently trading at a median multiple of roughly 3x enterprise value/revenue and 11x enterprise value/EBITDA



# United States Biotechnology Financing

- In the past two years there has been a significant rebound in United States biotech financing, especially when layered against the backdrop of the gloom-and-doom predictions that existed at the end of 2008
- However, a significant portion of the financings largely funded a very small group of companies, with two thirds of the total capital raised by less than 20 companies



Sources: Ernst & Young, BioCentury, BioWorld, and VentureSource

- Numerous companies took advantage of low interest rates to refinance existing debt, stock buybacks, and acquisitions
- Companies with earlier-stage technologies, and those still waiting for their first clinical breakthrough, took advantage of market conditions to secure funds utilizing a variety of transactions

# United States Biotechnology Financing

- After 40+ years of relatively easy access to cheap capital, the restructuring of the capital markets has made financing more difficult and expensive to secure
- Many emerging biotech companies have struggled to operate, let alone expand, with limited cash resources during the past year
- Positive trends in the second half of the year were due to the massive debt issuances by the larger, more profitable companies
- The number of venture financings dropped in the second part of 2010 due to the lack of new capital raised and the decision to raise smaller funds

Quarterly Breakdown of US Biotechnology Financings, 2010 (\$ million)

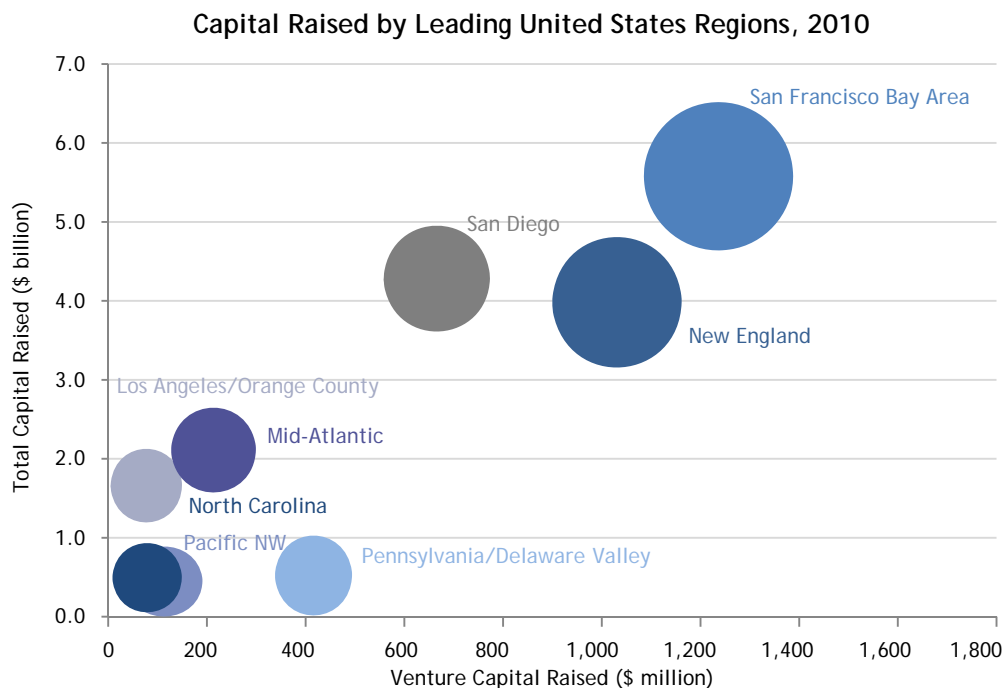
	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Total
Public company data					
IPO	\$351 (4)	\$180 (3)	\$185 (3)	\$381 (5)	\$1,097 (15)
Follow-on	\$946 (20)	\$623 (17)	\$241 (5)	\$1,161 (22)	\$2,971 (64)
Venture	\$2,016 (51)	\$2,152 (42)	\$4,508 (35)	\$3,565 (20)	\$12,242 (148)
Other	\$1,017 (131)	\$1,514 (135)	\$1,123 (95)	\$755 (76)	\$4,409 (437)
<b>Total</b>	<b>\$4,331 (206)</b>	<b>\$4,469 (197)</b>	<b>\$6,058 (138)</b>	<b>\$5,862 (123)</b>	<b>\$20,720 (664)</b>

Sources: Ernst & Young, BioCentury, BioWorld, Windhover, and VentureSource, <sup>1</sup>Biotech 2009: Navigating the Sea Change, Burrill & Company, 2009



# United States Biotechnology Financing

- The San Francisco Bay Area and San Diego outpaced all other United States regions in terms of total fund-raising in 2010, collecting \$5.5 billion and \$4.4 billion, respectively
- Over the past couple years, venture capital funds with charters that permit investments in public entities had been taking advantage of buying opportunities where some companies were trading below their IPO prices and sometimes even below the cash on their balance sheets



Size of bubbles shows number of financings per region  
Sources: Ernst & Young, BioCentury, and VentureSource

- This venture investment in public entities had an effect on the financing of the market with some microcap public biotechs receiving access to new pools of venture funding that were previously unavailable
- This effect, and other causes, led to some change in the recent recipients of venture capital funding in the United States

## European Biotechnology Market Overview

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# European Biotechnology Overview

- European biotech companies demonstrated considerable resilience during the economic downturn with only a 4% decrease of publicly traded companies from 2008 to 2009
- Revenues grew 12% year over year, edging closer to the pre-crisis growth rate of nearly 17%
- R&D expense bounced back from its decrease of 2% in 2009 and reported an increase of 5%

European Biotechnology at a Glance, 2009-2010 (€ million)

	2010	2009	% change
<b>Public company data</b>			
Revenues	13,004	11,606	12%
R&D expense	3,400	3,229	5%
Net income (loss)	(459)	(467)	-2%
Market capitalization	59,433	47,420	25%
Number of employees	49,060	48,660	1%
<b>Financings</b>			
Capital raised by public companies	1,862	2,091	-11%
Number of IPOs	10	3	233%
Capital raised by private companies	1,021	790	29%
<b>Number of companies</b>			
Public companies	172	167	2%
Private companies	1,662	1,675	-1%
Public and private companies	1,834	1,842	-0.5%

Source: Ernst & Young  
European Commission

- European regulators and industry professionals continue to stress the core principal of responsible innovation as the primary focus of the future
- European optimism about the prospects of the biotech industry, amid the recent market challenges, remains strong among the majority of industry respondents according to a 2010 survey conducted by the European Commission



Bourne Partners

# Select European Biotech Trading Comps

\$ in millions, except for per-share amounts

Company	Ticker	Share Price	Shares Out	Equity Value	Net Debt (Cash)	Enterprise Value	LTM				CYE		CYE EPS	CYE+1 EPS	Book Value
							Sales	EBITDA	EBIT	EPS	Sales	EBITDA			
Actelion Ltd.	SWX:ATLN	\$48.60	119.4	\$5,800.7	(\$1,072.4)	\$4,728.3	\$2,064.6	\$585.1	\$500.8	\$2.54	\$2,256.7	\$632.1	\$3.83	\$4.52	\$16.1
Grifols, S.A.	CATS:GRF	18.98	212.9	4,041.3	833.0	4,874.3	1,328.5	326.5	276.8	0.62	2,044.1	508.1	0.94	1.24	4.4
Elan Corporation, plc	NYSE:ELN	10.58	586.5	6,205.2	771.9	6,977.1	1,172.2	135.9	75.7	(0.08)	1,253.5	240.2	(0.01)	0.08	0.5
Gentium S.p.A.	NasdaqGM:GENT	9.27	15.0	138.7	(9.8)	128.9	36.3	11.2	9.4	0.31	37.9	0.0	0.84	1.37	1.4
Galapagos NV	ENXTBR:GLPG	12.03	26.4	317.6	(52.5)	265.1	183.1	10.7	(4.7)	(0.14)	231.1	19.3	1.26	1.46	7.6
Morphosys AG	XTRA:MOR	28.23	23.0	647.9	(169.8)	478.2	163.2	57.3	48.5	0.34	152.7	27.6	0.63	0.71	12.8
Vitrolife	OM:VITR	6.26	19.6	122.4	7.3	129.7	49.2	7.7	5.8	0.20	56.8	10.9	0.31	0.40	2.6
Genus plc	LSE:GNS	16.25	59.7	969.9	110.2	1,080.1	474.0	98.1	81.0	0.60	497.6	83.4	0.65	0.74	6.8
Probi AB	OM:PROB	6.84	9.2	63.0	(13.5)	49.5	14.0	4.9	3.9	0.22	13.8	4.1	0.28	0.37	2.1

Company	Ticker	FYE	Data as of	Margin Analysis			Enterprise Value/				P/E			Price to Book	
				Gross Profit	EBITDA	EBIT	Sales	EBITDA	EBIT	Sales CYE	LTM	CYE	CYE+1		
Actelion Ltd.	SWX:ATLN	31-Dec	21-Jun-11	89.6%	28.3%	24.3%	2.3 x	8.1 x	9.4 x	2.1 x	19.2 x	12.7 x	10.7 x	3.0 x	
Grifols, S.A.	CATS:GRF	31-Dec	21-Jun-11	74.8%	24.6%	20.8%	3.7 x	14.9 x	17.6 x	2.4 x	30.6 x	20.2 x	15.3 x	4.3 x	
Elan Corporation, plc	NYSE:ELN	31-Dec	21-Jun-11	49.3%	11.6%	6.5%	6.0 x	51.3 x	92.2 x	5.6 x	NM	NM	124.9 x	22.6 x	
Gentium S.p.A.	NasdaqGM:GENT	31-Dec	21-Jun-11	76.7%	30.9%	25.8%	3.6 x	11.5 x	13.7 x	3.4 x	29.7 x	11.1 x	6.8 x	6.4 x	
Galapagos NV	ENXTBR:GLPG	31-Dec	21-Jun-11	77.0%	5.9%	NM	1.4 x	24.7 x	NM	1.1 x	NM	9.6 x	8.2 x	1.6 x	
Morphosys AG	XTRA:MOR	31-Dec	21-Jun-11	93.6%	35.1%	29.7%	2.9 x	8.3 x	9.9 x	3.1 x	83.0 x	45.1 x	39.6 x	2.2 x	
Vitrolife	OM:VITR	31-Dec	21-Jun-11	68.7%	15.8%	11.8%	2.6 x	16.7 x	22.4 x	2.3 x	31.9 x	20.5 x	15.5 x	2.4 x	
Genus plc	LSE:GNS	30-Jun	21-Jun-11	67.7%	20.7%	17.1%	2.3 x	11.0 x	13.3 x	2.2 x	27.1 x	25.1 x	21.9 x	2.4 x	
Probi AB	OM:PROB	31-Dec	21-Jun-11	88.0%	34.9%	28.0%	3.5 x	10.1 x	12.7 x	3.6 x	31.7 x	24.6 x	18.5 x	3.3 x	
				Median	76.7%	24.6%	22.5%	2.9 x	14.9 x	15.7 x	2.4 x	30.6 x	16.5 x	15.3 x	3.0 x
				Mean	75.7%	21.7%	19.8%	3.2 x	19.4 x	27.5 x	2.9 x	38.9 x	19.8 x	31.6 x	6.1 x
				Min	49.3%	5.9%	6.5%	1.4 x	8.1 x	9.4 x	1.1 x	19.2 x	9.6 x	6.8 x	1.6 x
				Max	93.6%	35.1%	29.7%	6.0 x	51.3 x	92.2 x	5.6 x	83.0 x	45.1 x	124.9 x	22.6 x

\* All estimates from Capital IQ

NA - not available

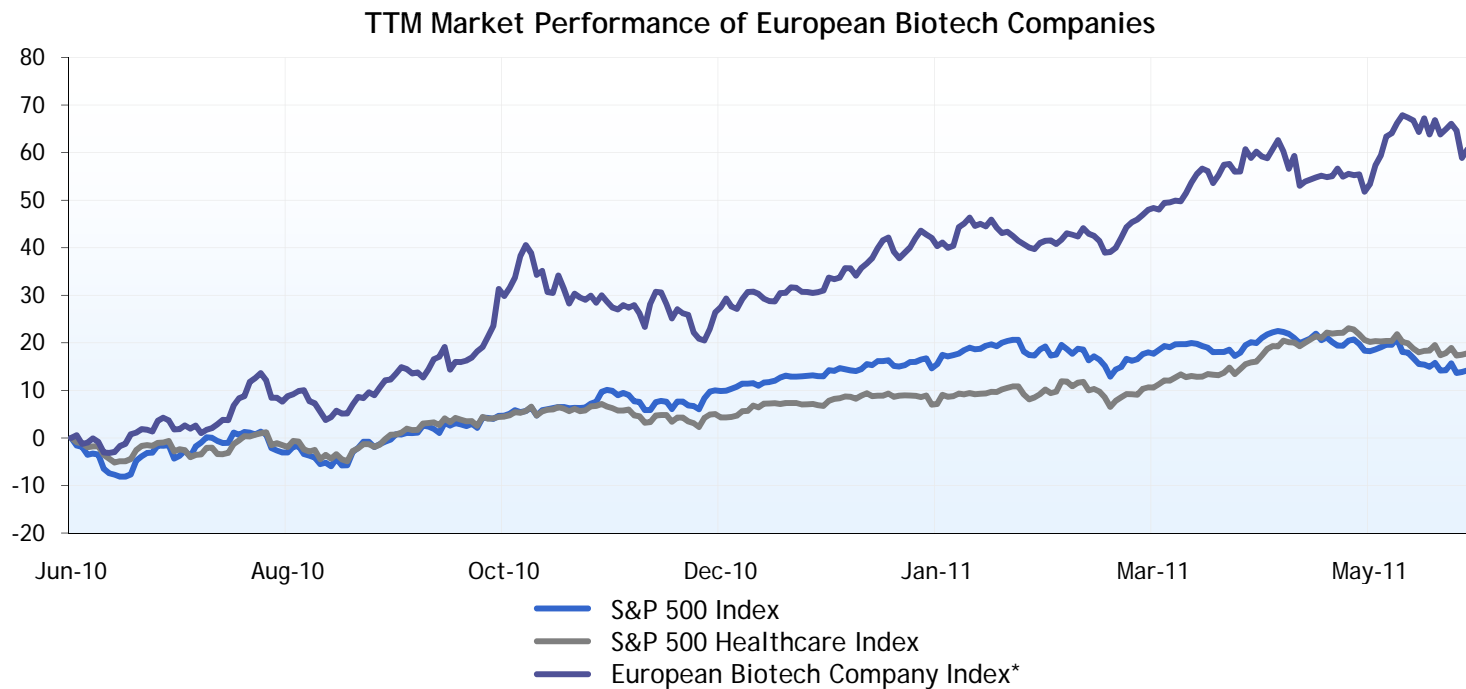
NM - not meaningful

- European biotech companies are trading at median multiples similar to their U.S. counterparts, (roughly 3x enterprise value/revenue and 15x enterprise value/EBITDA), though gross profits are slightly lower in Europe, ranging from 65% to 75%



# European Market Comparison

- As illustrated by the indices below, the share price of the European biotech companies index has grown at a significantly higher rate than both the S&P 500 and healthcare sector index
- This may be attributable to the expectation of licensing deals and consolidation remaining key drivers of share price performance in Europe

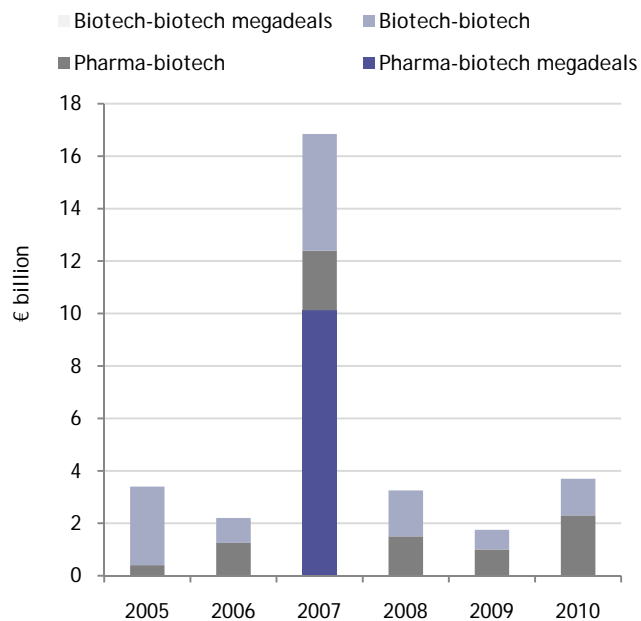


\*European Biotech Company Index comprised of companies from trading comps basket on previous slide

# European Biotechnology M&A Activity

- With significant declines in 2008 and 2009, Europe saw an increase in transaction value for the first time in 2010 since the strong 2007 M&A volume
- In 2010, the total value of M&A activity involving a European biotech company rose to €3.7 billion, up from its 2009 value of €1.8 billion
- This increase in value was driven by Johnson and Johnson's \$2.3 billion acquisition of Crucell

European Mergers & Acquisitions, 2005-2010



Sources: Ernst & Young, Windhover Information, MedTRACK, BioWorld, and NewsAnalyzer

- Some pharma players have preferred to acquire an entire biotech company rather than cherry picking the most promising drug candidates or technologies, for nearly the same price, giving the acquirer the option of asset-stripping or maintaining the company
- As a result of this strategy, continuing consolidation in the European biotechnology environment is expected
- Strong pipelines, sustainability of growth, and cash flow generation continue to create high strategic value for companies as takeover targets

# European Biotech Transaction Comps

(\$ in millions)

Date Filed	Target	Buyer	Transaction Value	Implied EV	Total Revenue	EBITDA	Implied EV/Revenue	Implied EV/EBITDA
Apr-11	Biophausia AB (OM:BIOP)	Medivir AB (OM:MVIR B)	\$209.0	\$206.8	\$89.1	\$11.1	2.3x	18.7x
Jan-11	Biosearch SA (CATS:BIO)	Groupe Lactalis S.A.	11.1	57.0	25.8	2.6	2.2x	22.4x
Dec-10	Martek Biosciences Corporation	Royal DSM N.V. (ENXTAM:DSM)	1,087.9	1,024.1	450.0	123.2	2.3x	8.3x
Dec-10	Q-Med AB	Galderma Pharma S.A.	1,184.9	1,039.7	224.9	57.2	4.6x	18.2x
Nov-10	Biolin Scientific AB (publ).	Ratos AB (OM:RATO B)	49.4	46.6	21.4	3.1	2.2x	15.2x
Oct-10	Crucell N.V.	Cilag Holding AG	2,334.0	2,352.3	504.7	36.4	4.7x	64.6x
Sep-10	ZymoGenetics Inc.	Bristol-Myers Squibb Company (NYSE:BMJ)	938.2	732.8	162.8	16.2	4.5x	45.3x
Sep-10	Biolin Scientific AB (publ).	Nordea Fonder AB	-	-	20.7	2.8	-	-
Jul-10	Genzyme Corporation	Sanofi (ENXTPA:SAN)	21,501.5	19,551.5	4,048.7	725.5	4.8x	27.0x
Jan-10	Grifols, S.A. (CATS:GRF)	Capital Research and Management Co.	93.1	3,771.8	1,250.9	362.0	3.0x	10.4x
Mar-09	Swedish Orphan Biovitrum AB (OM:SOBI)	Investor AB (OM:INVE A)	68.0	310.9	139.5	29.3	2.2x	10.6x
Feb-09	Origio a/s (OB:ORO)	Merck KGaA (DB:MRK)	107.4	83.1	41.1	5.0	2.0x	16.8x
Jan-09	Origio a/s (OB:ORO)	Vitrolife (OM:VITR)	95.3	67.6	35.9	4.6	1.9x	14.8x
Dec-08	Curasan AG (XTRA:CUR)	Wegold Edelmetalle AG	-	-	7.3	0.2	-	-
Nov-08	Q-Med AB	EQT Partners AB	509.6	477.9	164.0	20.4	2.9x	23.5x
Sep-08	ImClone Systems Corporation	Eli Lilly & Co. (NYSE:LLY)	7,133.6	6,198.0	628.1	193.2	9.9x	32.1x
Sep-08	Galapagos NV (ENXTBR:GLPG)	Delta Lloyd Levensverzekeringen NV	-	-	106.0	2.1	-	-
Aug-08	Grifols, S.A. (CATS:GRF)	FIL Limited	-	-	1,107.7	294.1	-	-
Aug-08	BIOTON S.A. (WSE:BIO)	Zaklady Farmaceutyczne Polpharma S.A.	219.7	800.5	142.8	28.1	5.6x	28.5x
Jul-08	ImClone Systems Corporation	Bristol-Myers Squibb Company (NYSE:BMJ)	5,073.2	5,029.9	628.1	193.2	8.0x	26.0x
Jul-08	Genentech, Inc.	Roche Holdings, Inc.	46,722.4	99,217.7	13,418.0	5,661.0	7.4x	17.5x

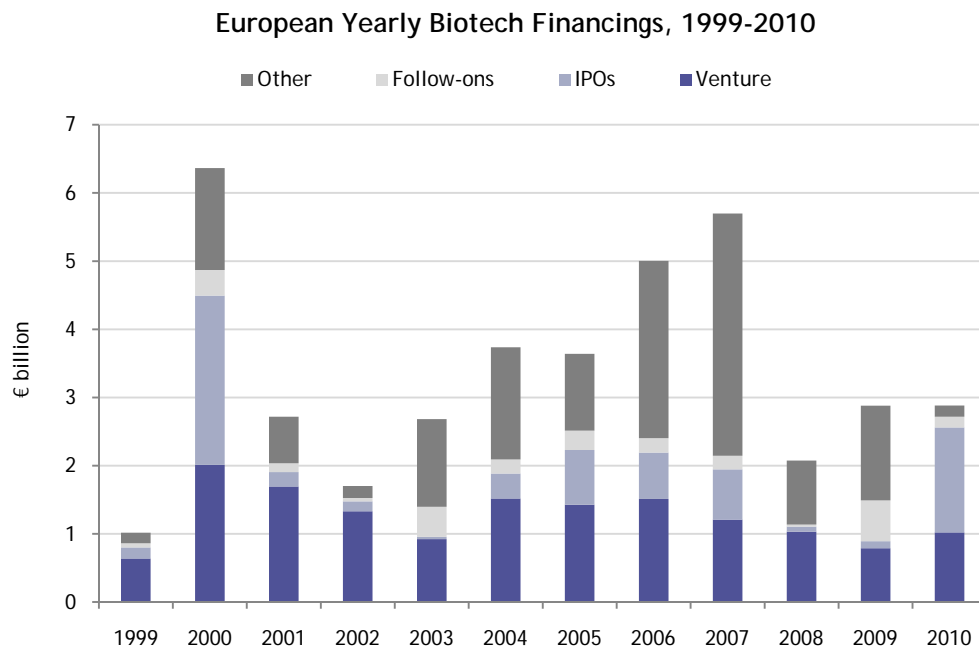
Median	\$800.5	\$162.8	\$28.1	3.0x	18.7x
Mean	8,292.2	1,105.6	370.0	4.1x	23.5x
High	99,217.7	13,418.0	5,661.0	9.9x	64.6x
Low	46.6	7.3	0.2	1.9x	8.3x

- European companies focused in the biotechnology sector are currently trading similarly to their US counterparts as a median multiple of enterprise value/revenue (3x) with a higher enterprise value/EBITDA multiple (19x vs. 11x)



# European Biotechnology Financing

- Although there has been a significant drop off in European biotech funding since 2007, overall financing continued to increase through 2010
- Many smaller biotech companies faced potential bankruptcy in 2008 as traditional sources of funding, such as debt, public offerings, private placements and convertible bond issuances, were largely closed for early-stage and cash-burning businesses



Sources: Ernst & Young, BioCentury, BioWorld, VentureSource, and NewsAnalyzer

- 2009 saw a rebound in the capital markets, though risk-averse VC firms invested in later stage projects or demanded more equity for their money, limiting funding sizes
- In 2010, European biotech start-ups have had easier access to funding, though primarily through VC firms based in the United States, where economic prospects improved more quickly than in Europe

# European Biotechnology Financing

- In 2009, the European Commission and the industry trade association, European Biopharmaceutical Enterprises, estimated that 40% of European biotechs needed more cash before the end of 2010
- However, funding is limited and investors remain cautious and selective toward the sector
- While European biotech IPOs simply went missing in early 2009, the number has significantly increased in 2010 which is a positive sign
- Strategic alliances have taken on greater significance in the absence of traditional and fundamental sources of funding as the capital markets stabilize

Quarterly Breakdown of European Biotechnology Financings, 2010 (€ million)

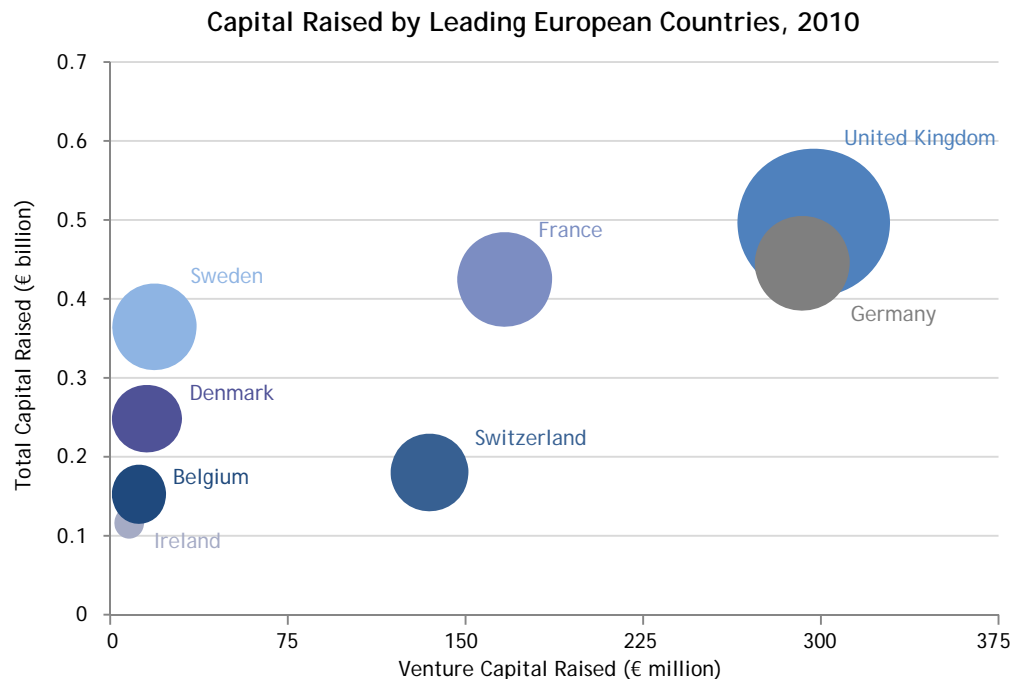
	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Total
Public company data					
IPO	€27 (2)	€57 (5)	€22 (1)	€58 (2)	€165 (10)
Follow-on	€114 (13)	€13 (6)	€6 (4)	€23 (3)	€156 (26)
Venture	€273 (61)	€308 (54)	€275 (31)	€165 (35)	€1,021 (181)
Other	€441 (41)	€359 (34)	€230 (24)	€511 (42)	€1,540 (141)
<b>Total</b>	<b>€856 (117)</b>	<b>€737 (99)</b>	<b>€533 (60)</b>	<b>€757 (82)</b>	<b>€2,883 (358)</b>

Sources: Ernst & Young, BioCentury, BioWorld, Windhover, and VentureSource Nature Biotechnology



# European Biotechnology Financing

- Total funding for European companies has increased substantially in 2009 and 2010 from 2008
- There is a robust pace of start-up activity in Europe, however, these companies are generally funded less than their counterparts in the United States
- As a result of less seed financing and limited initial investment, a premium is placed on capital-efficient R&D strategies



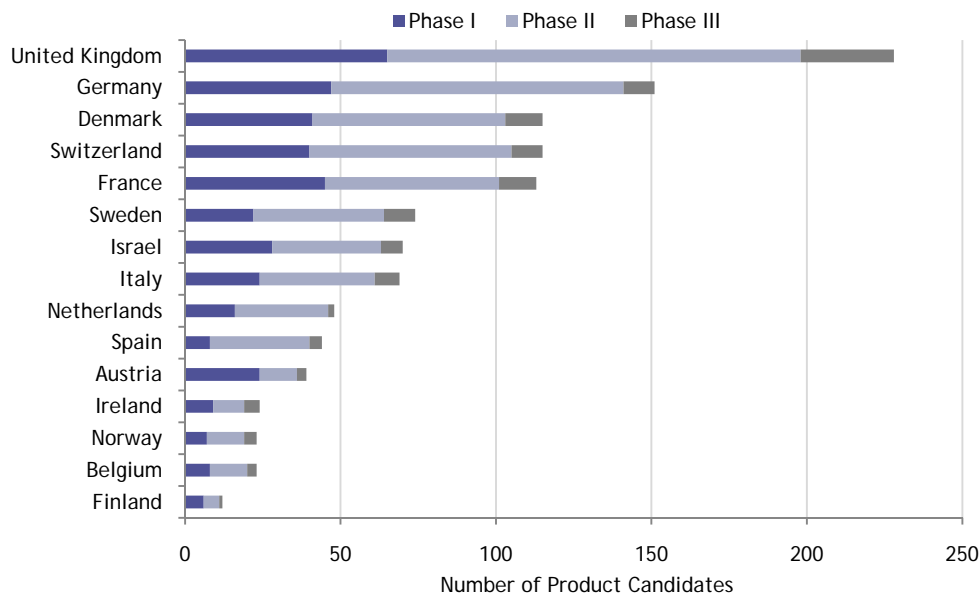
Size of bubbles shows number of financings per country  
Sources: Ernst & Young, BioCentury, and VentureSource

- Europe remains a common market, with investments regularly flowing across borders
- The United Kingdom led in both the total number of financings and venture capital raised
- Germany rebounded from a very low total in 2009 and fell just short of the UK in the total amount of venture capital raised in 2010

# European Biotechnology Pipeline

- The maturing of the biotechnology industry has led to more robust pipelines and improved product offerings, such as humanized antibodies
- However, the high novelty of biotech drug development approaches has led to increased attrition and higher costs per drug, as many novel compounds go through the pipeline
- The United Kingdom and Germany have the most drugs currently in the European pipeline

European Clinical Pipeline by Country, 2010



Sources: Ernst & Young, MedTRACK, and company websites  
McKinsey & Company

- Manufacturing complexity and capacity of drugs in clinical trials has limited the pipeline of some European biotech companies
- Certain countries, such as Austria and Spain, showed huge increases from their 2009 pipelines, increasing by 31% and 17%, respectively



## Looking Ahead to the Biotechnology Market through 2011 and Beyond

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# Biotechnology Market in 2011

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- The changing regulatory landscape is expected to continue reshaping the biotech market moving forward in 2011:
  - Healthcare reform legislation
  - Pharmaceutical and medical device tax
  - Adaptive/flexible clinical trial designs
- In addition to new healthcare laws that require more controls on patient costs and improved use of information technology, the loss of patent protection on many best-selling medicines and pricing pressure from cash-strapped governments worldwide are compelling reasons for M&A in the near future
- While the continued recovery of the economy may open the window for more IPOs, the rest of 2011 is expected to see more bolt-on acquisitions and bite-sized deals that don't necessarily change the industry but give a company new growth, portfolio products, or geographical reach

## Biotechnology Market in 2012 and Beyond

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- The effect of genericization from patent losses will be felt most in 2012
- The amount of capital available to these biotech companies is predicted to continue to decline into 2012 which will force smaller companies to do more with the funding that's available or seek larger pharmaceutical companies as potential acquirers
- Small biotech companies that face challenges raising capital, may continue seeking in-licensing partnerships and collaborations with pharma companies sitting on large piles of cash in order to survive and continue with the development of promising pipeline candidates
- Therapeutic areas expected to see the most in-licensing activity among biotech companies in the future include oncology, central nervous system disorders, diabetes, immunology, and inflammation