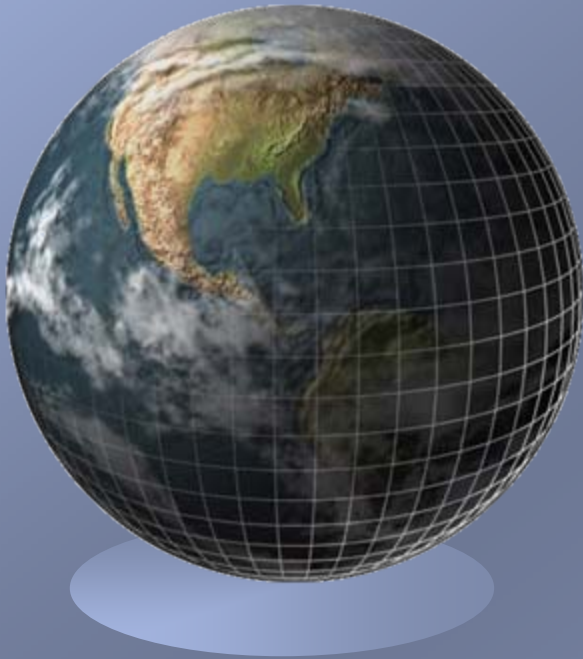


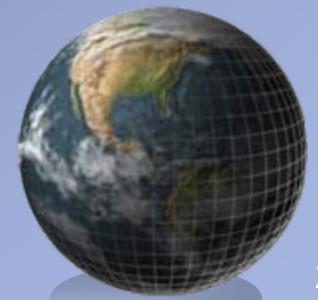
The Changing Biotech Landscape:



Money, Products, &
Politics Force Change

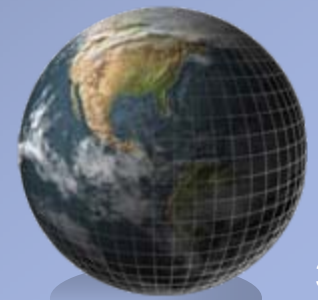
Today's Climate

- Biotech is a 30-year-old international industry with hundreds of public companies on 5 continents, 1000+ private companies, and product revenues in the double-digit billions of dollars.



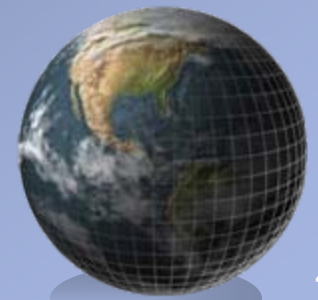
Today's Climate

- Non-biotechs (devices, diagnostics, health IT, etc.) showing up increasingly; focus on net earnings
- Everyone is chasing cash
- Valuations are under pressure
- Big pharma's problems throw a long shadow



Today's Climate

- VC funds and the public markets are coming back to biotech, but selectively receptive:
 - VCs focused on risk reduction
 - Institutional investors crushing valuations of IPOs
- Classic biotechs can't deal well with after-market expectations
- “Net profit” companies need quarter-to-quarter performance



Amex Biotech Index vs S&P500 Performance (1994-2006)
(Each Index+100 as of Jan 1, 1991)

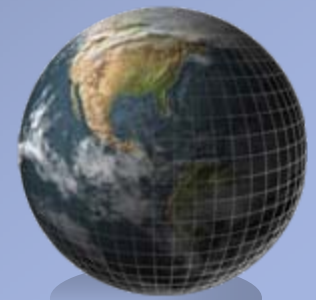


Money Raised YTD

	<u>Private</u>	<u>Public</u>	<u>Other</u>	<u>#IPOs</u>
2001	\$3,745M	\$4,494M	\$ 6,117M	10
2002	\$3,226M	\$1,390M	\$ 5,631M	4
2003	\$3,330M	\$3,688.5M	\$ 9,466M	11
2004	\$4,894M	\$5,462M	\$10,459M	28
2005	\$4,809M	\$5,580M	\$ 9,726M	11
2006	\$3,304M	\$3,280M	\$ 5,315M	14

(thru August '06)

All data for international sector, IPOs US only, from BioWorld
Public = initial, follow-on; Other= other financings of public co's



US FINANCING CLIMATE

	Series A	Series B	Higher rounds
2006 Thru 7/06	\$323 M	\$572 M	\$794 M
	(70% to clinic-stage)	(49% to clinic-stage)	(80% to clinic-stage)
# deals	20	26	26
Median	\$ 28 M*	\$ 26 M**	\$ 33 M***
Range	\$1.5M - \$55M	\$3M - \$50M	\$4.5M - \$65M

* 4 w/Ph. I trials, 4 w/Ph. II, 2 w/Ph. III

** 3 w/Ph. I trials, 6 w/Ph. II trials, 2 w/Ph. III, 1 on market

*** 2 w/Ph. I, 12 w/Ph. II, 1 w/Ph. III, 3 on market

All data for US only, from BioWorld

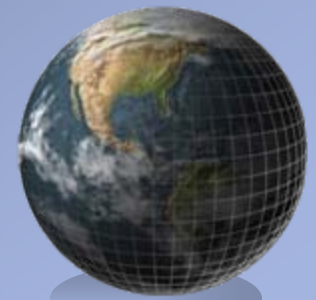
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BioVenture Consultants



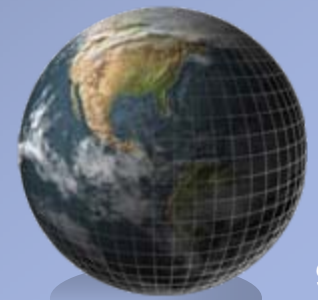
US FINANCING CLIMATE

- The venture industry has matured from a risk-taking industry-builder into another asset class for portfolio diversification.
- The US venture community is focused on risk reduction and maximizing ROI to support raising their next funds



BIOTECH CAN'T AVOID INVESTORS

- Most of biotech is extremely dependent on investors and corporate partners to maintain the required flow of capital



Biotech's Challenges

- Growing R&D and marketing costs:
 - Total pharmaceutical research spending continues to rise, while number of NDAs drops
- Mean time for biopharma clinical development and approval process has grown 73% to ~95 months since 1982
- Direct-to-patient advertising
- Product lifecycle management becomes increasingly crucial



Biotech's Challenges

- Regulatory Challenges in US (the biggest market)
 - How will FDA change over the next 5 years—leadership, impact of presidential elections, retention of key personnel
 - FDA review of “generic” biologics
 - How will personalized medicine change clinical requirements?
 - Timing of these changes



Biotech's Challenges

- Patent expiration and “generic” biologics support increasing global competition
- Manufacturing resources need to keep pace with new product development and commercialization



Biotech's Challenges

- Making and maintaining great alliances at all levels
 - Partners to extend development and commercialization capabilities globally
 - Partnering with young companies to keep that flow of new science flowing



Darwinian Forces

- Growing resistance from governments, big corporations, and consumers to rising costs and decreased access
- Polls show people believe the pharma industry has become another greedy sector that can't be trusted
- Can biotech avoid these pitfalls and restructure for a low-overhead future?



What is driving these trends?

- A growing public battle perceived between public safety and corporate greed:
 - Drugs pulled off the market
 - Evidence companies concealed adverse data
 - Marketing to consumers
 - Government and personal lawsuits against pharma and biotech firms for pricing, S&M, manufacturing, etc.



Drug Companies 2004/2005

Net Profit

Pfizer	\$11.4 billion	\$ 8.1 B '05
Johnson & Johnson	\$8.5 billion	\$10.4 B '05
GlaxoSmithKline	\$7.8 billion	\$ 8.8 B '05
Sanofi-Aventis	\$6.1 billion*	\$ 7.6 B '05
Novartis	\$5.8 billion	\$ 6.0 B '05
Roche	\$5.6 billion	\$ 5.2 B '05
Merck	\$5.8 billion	\$ 4.6 B '05
Amgen	\$2.4 billion	\$ 3.7 B '05
BMS	\$2.4 billion	\$ 3.0 B '05
Wyeth	\$1.2 billion	\$ 3.7 B '05
Lilly	\$1.8 billion	\$ 2.0 B '05
Genentech	\$785 million	\$ 1.3 B '05
Biogen Idec	\$498 million	\$ 542 M '05
Gilead		\$813.6 M '05

* adjusted

10/3/2006



Does Money = Innovation?

- All that cash, however, is not always funding innovation. According to FDA, 314 drugs were approved between 2000-2003. 132 were biotech products.
- FDA says: **ONLY 10% WERE NEW MOLECULES WITH SIGNIFICANT IMPROVEMENT OVER EXISTING DRUGS.** The rest were “me-too” drugs or new indications for existing drugs.



Money Troubles

- Big pharma has promised its public investors double-digit net earnings growth year to year, which becomes impossible to deliver.
- Pfizer announced \$4 billion in cuts to drag net earnings back to double-digit by 2006
- With \$12 billion net profits, why the need to please Wall Street? Could it have something to do with those hefty stock option packages held by top execs?
- Can Biotech avoid making business decisions simply to please investors?



Technology is Changing Medical Practice

- Genomics is slowly but surely changing the practice of medicine, regulatory requirements for new drug development, and S&M practices
 - You don't need 38,000 sales reps to sell targeted drugs to patient sub-populations



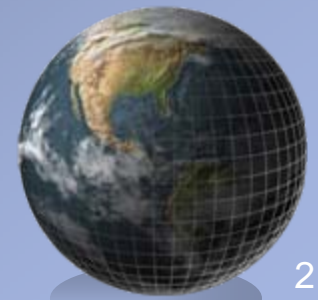
Is Big Pharma a Dinosaur ?

- Conventional wisdom says that Big Pharma excels at the downstream functions.
 - Products pulled off the market, asthma inhalers hitting the shelves without the medicine inside, lawsuits, and bloated S&M budgets suggests that maybe these companies are actually NOT so good at this stuff.



Is Big Pharma a Dinosaur ?

- Much of Big Pharma relies on biotech innovation for new products. But is Big Pharma the best partner for biotech?
 - Biotech depends on royalties on net sales. Maybe we need a partner who will return more of the gross.



Everyone Complains:

- Biotech execs complain investors don't see the value and won't fund R&D
- VCs complain that they need less risk and better ROI
- Big Pharma complains that investors aren't supporting the early-stage deals needed to feed their pipelines
- Everyone complains that public markets are crimping valuations



Time for Biotech to Change

- Biotech needs a new company structure focused on its excellent innovation, using outsourcing to access downstream capabilities.
- We don't **NEED** any more FIPCOs!



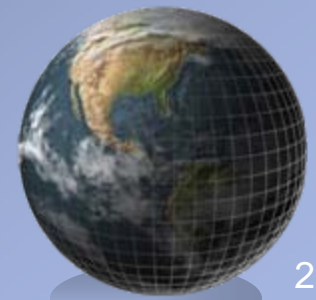
What would a new model look like?

- Fund projects, NOT companies, around pieces of technology
- Have a rigorous review of projects at each milestone- if they fail, STOP FUNDING!
- Use management with relevant industry experience
- Be creative about the exit: out-licensing is a great option, not just spinning out a company



A New Model

- Create true “translational research” teams on campuses to drive basic research into preclinical studies
- True hybrid academic/industry development facilities
- Create a global network of collaborators up and downstream.



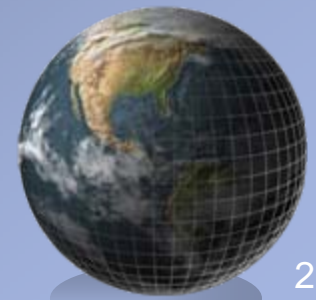
A New Model

- Lose the idea that success is measured only in the number of companies formed.
 - Forming companies is hard enough—keeping them alive long enough to prosper and grow is almost impossible!



A New Model

- There is a growing group of entrepreneurial hybrid organizations around the globe, eager to take on different parts of this evolving network:
 - CROs with venture funds
 - Experienced industry vets forming technology incubators
 - VCs teaming up with universities to create facilities to support development to “fundable proof of concept” stage



What Does This Mean for You?

- What do these structural changes mean for your companies?
- Assumption has always been: the goal is a FIPCO.... Sooner or later....
- Investors are wary of all but clinical-stage companies
- We still need early-stage work supported



What Does This Mean for You?

- Established companies have resources to share
 - How can that work?
 - Can we keep excess capacity running with other's projects? How do we manage that?
 - How do we handle IP issues?
 - Can you become an extension of your firm's venture activities?



What Does This Mean for You?

- Early-stage groups need to access facilities (and the expertise to run them)
 - How can you “make friends”?
 - Incubators vs. collaborators vs. landlords
 - QB³, MMRI, BioBridge, etc.
 - How do you finesse the IP issues?

