

# AMGEN's COMPETITIVE STRATEGIES

## “SMART SCIENCE”

Presented by:

### Team 5

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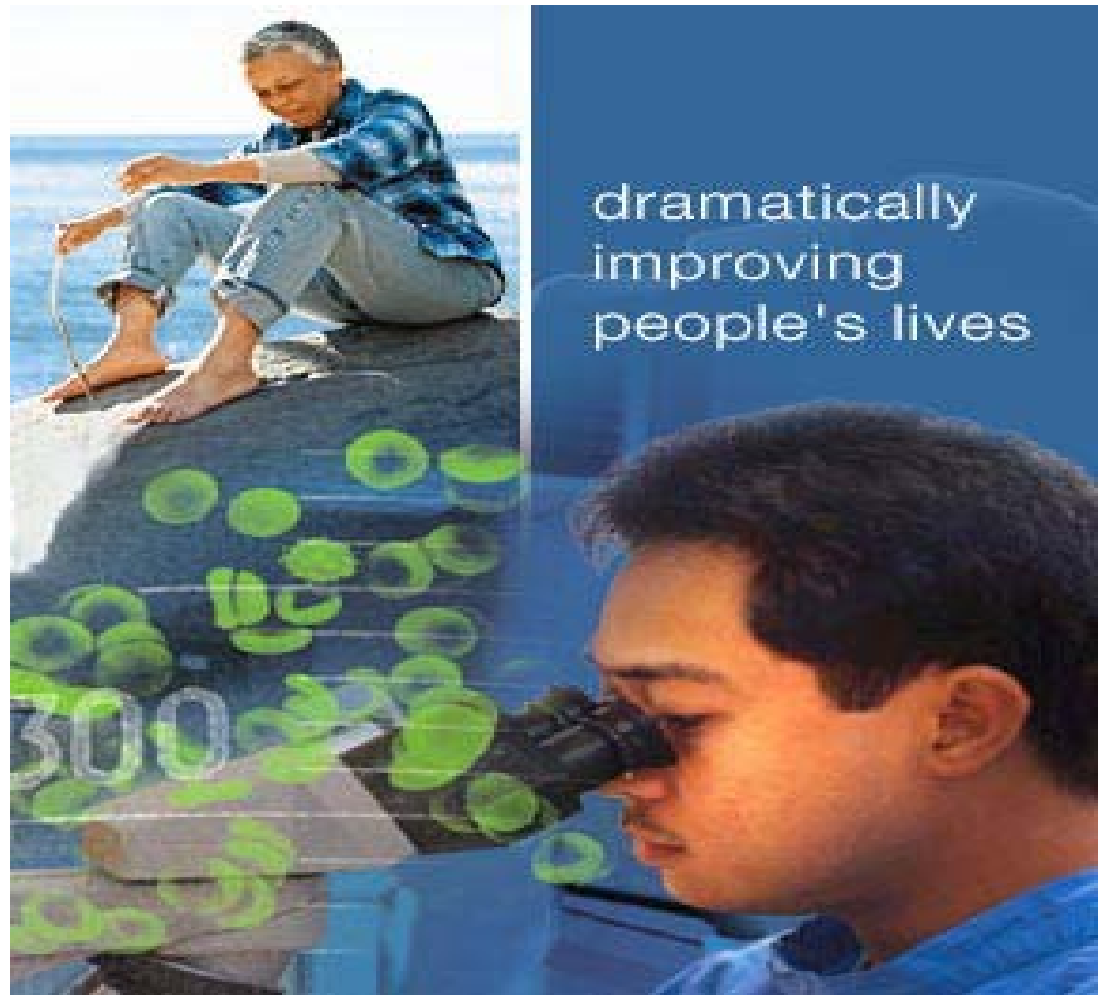
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dramatically  
improving  
people's lives



# Agenda

- **Project Purpose and Critical Questions**
- **Overview of Company**
- **Defining Corporate Strategy and Competitiveness**
  - Corporate Goals & Values
  - Management Preferences
  - Resources, Capabilities, Products, and Market
  - Strategic Alliances/Partnership
- **SWOT Analysis**
- **Science Push & Patient Pull Strategy**
- **Competitive Analysis**
- **Managing Technology with AMGEN Formula**
- **Lessons Learned**
- **Questions & Comments**



# Project Purpose & Critical Questions

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- ❖ What are the competitive strategies of AMGEN ?
- ❖ What role does strategic planning play at AMGEN? How useful is it?
- ❖ How AMGEN managing science and technology to become a leader in the biotech industry?



# AMGEN

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- 1980- first inception of Applied Molecular Genetics
- 1983- initiated PO
- 1987- built commercial R&D facility
- 1988- launched its first product, Novantrone (Cancer)
- 1989- launch its second product, Epogen (renal failure anemia)
  - established operations in Europe
- 1991- launch its third product, Neupogen (Neutropenia)
  - established operations in Australia and Canada
- 1992- established operations in Hong Kong and Japan
- 1994- launched Thioplex (Cancer)
- 1998- launched Enbrel (Rhuematoid Arthritis)
- 2001- launched Keneret (Rhuematoid Arthritis) and Aranesp (renal failure anemia)
- 2002- launched Neulasta (Neutropenia)



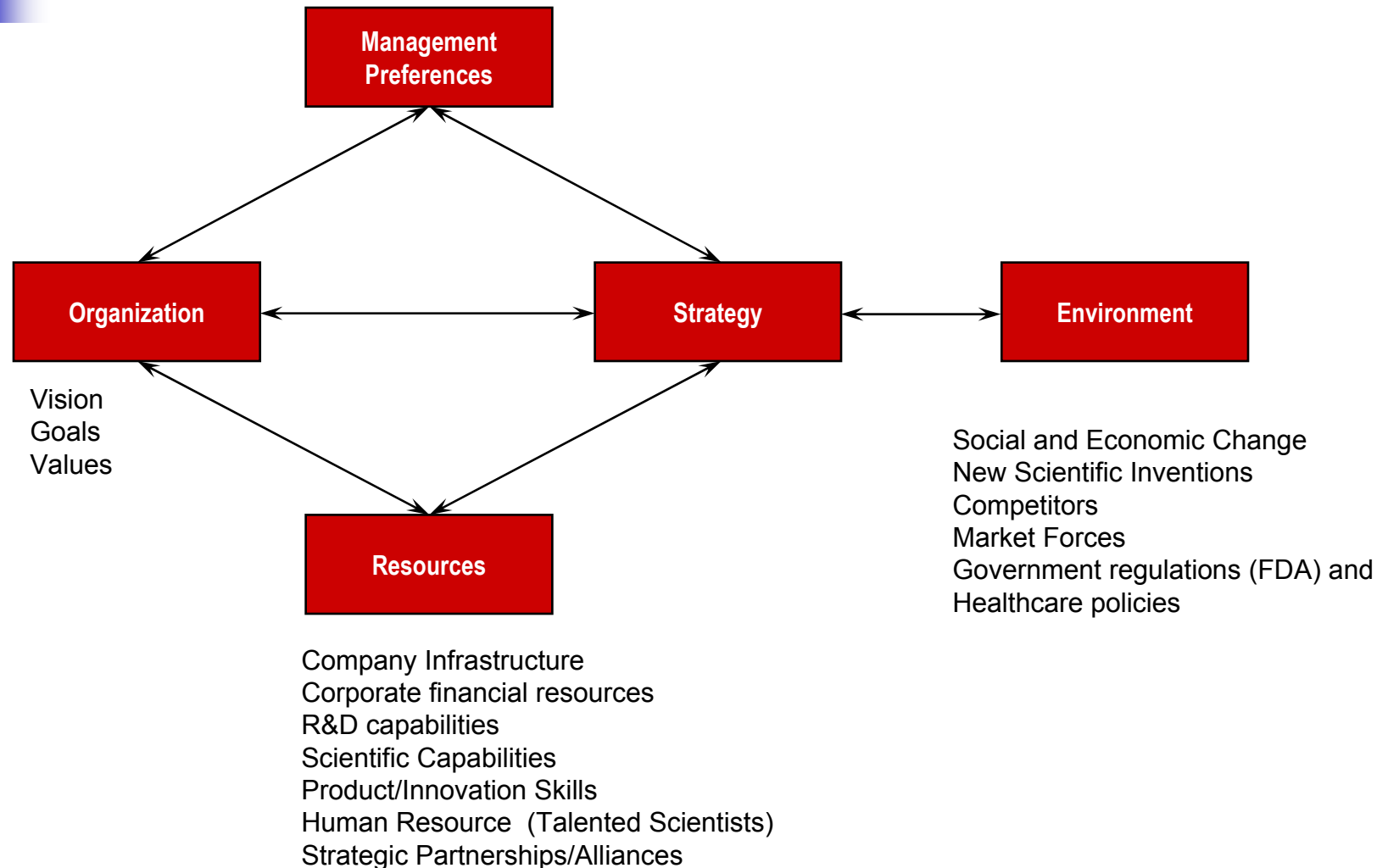
# Strategy Formulation

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“Strategy is a process for setting the direction of the business future” (F.Betz, 1998)

- **“Competitive Strategy”** a combination of the ends (goals) for which the firm is striving and the means (policies) by which it is seeking to get there.“ (Porter,1980)
- **Competitive strategy** is required to successfully compete in a given industry.

# Methodology for Defining Corporate Strategy





# Corporate Goals & Values

## Goals

- Launch a stream of products for improving dramatically patient's lives
- Create an environment where the best people choose to work
- Deliver superior shareholder returns compared to our industry peer group
- Be a good corporate citizen in communities where our staff live and work

## Values

- ✓ Be Science-based company
- ✓ Compete intensely and win
- ✓ Create value for patients, staff and stockholders
- ✓ Be ethical
- ✓ Trust and respect each other
- ✓ Work in teams
- ✓ Ensure quality
- ✓ Collaborate communicate and build consensus

## Management Preferences

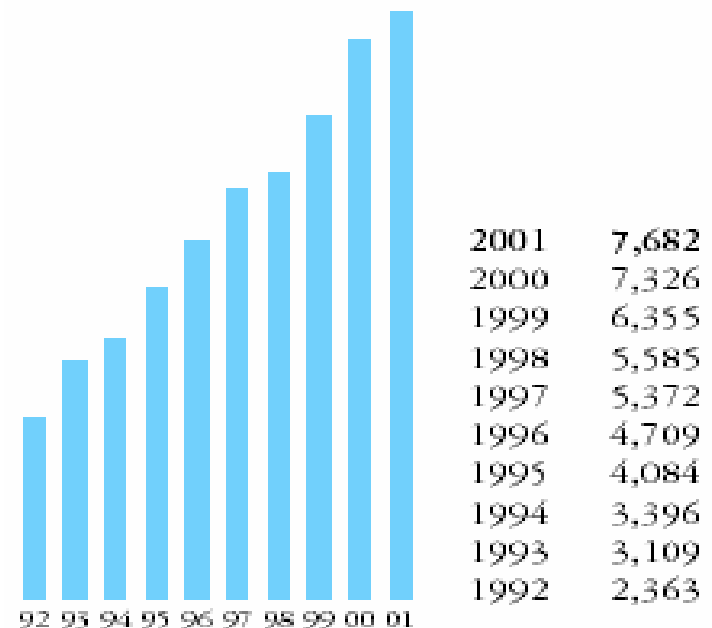
- Science based leader company in the biotech industry

# Resources & Capabilities

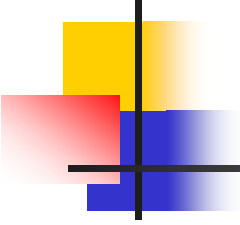
## ➤ SOFT RESOURCES

- Scientific Talent
- Management Talent
- IT expertise

Amgen Staff







# Resources & Capabilities

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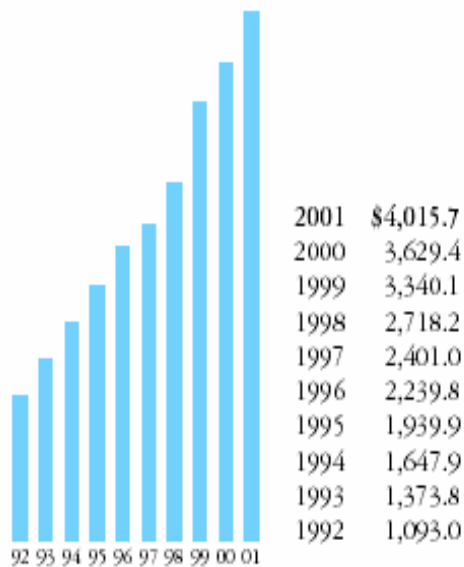
## ➤ HARD RESOURCES

- Partnerships and Knowledge
- Facilities and R&D Facilities
- Financial Resources

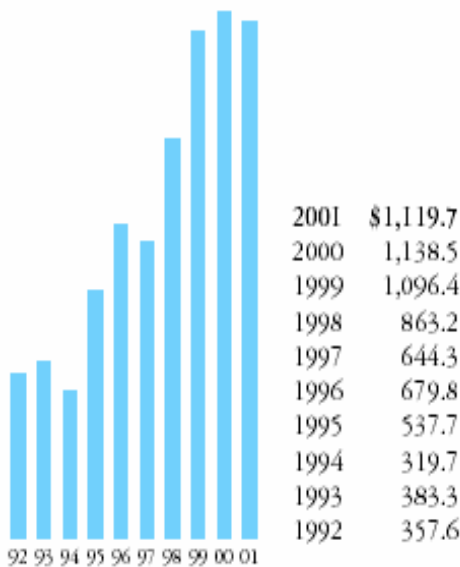
# Resources & Capabilities

- Financial Resources

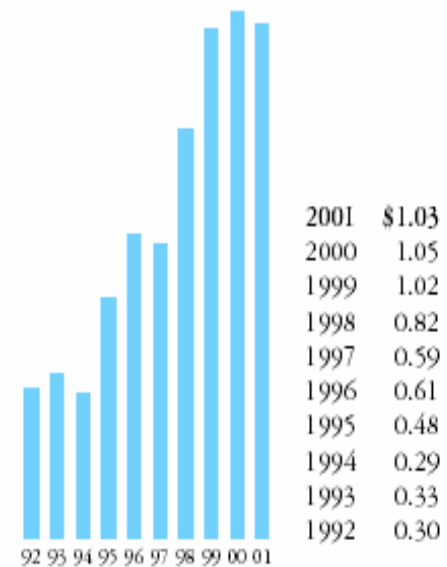
Total Revenues  
(\$ in millions)



Net Income  
(\$ in millions)



Diluted Earnings Per Share

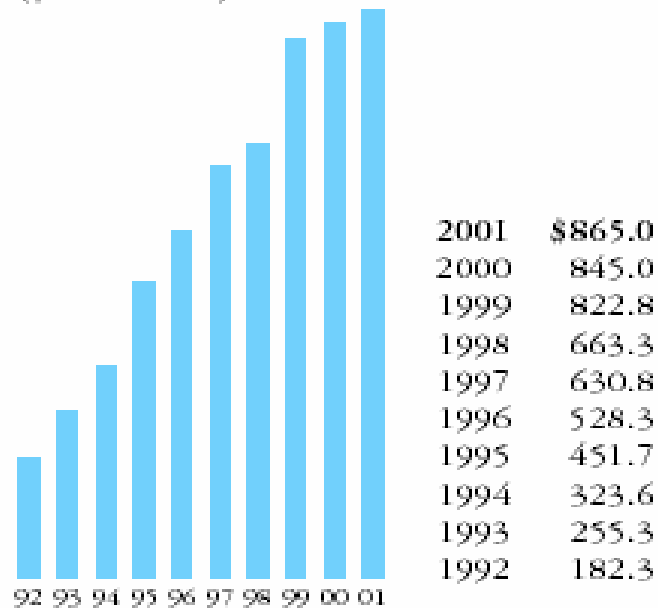


Source:AMGEN`s Annual Report 2001

# Resources & Capabilities

- Financial Resources

Research and Development  
Expenses  
(\$ in millions)



Source:AMGEN`s Annual Report, 2001

# Resources & Capabilities

- Facilities and R&D Facilities



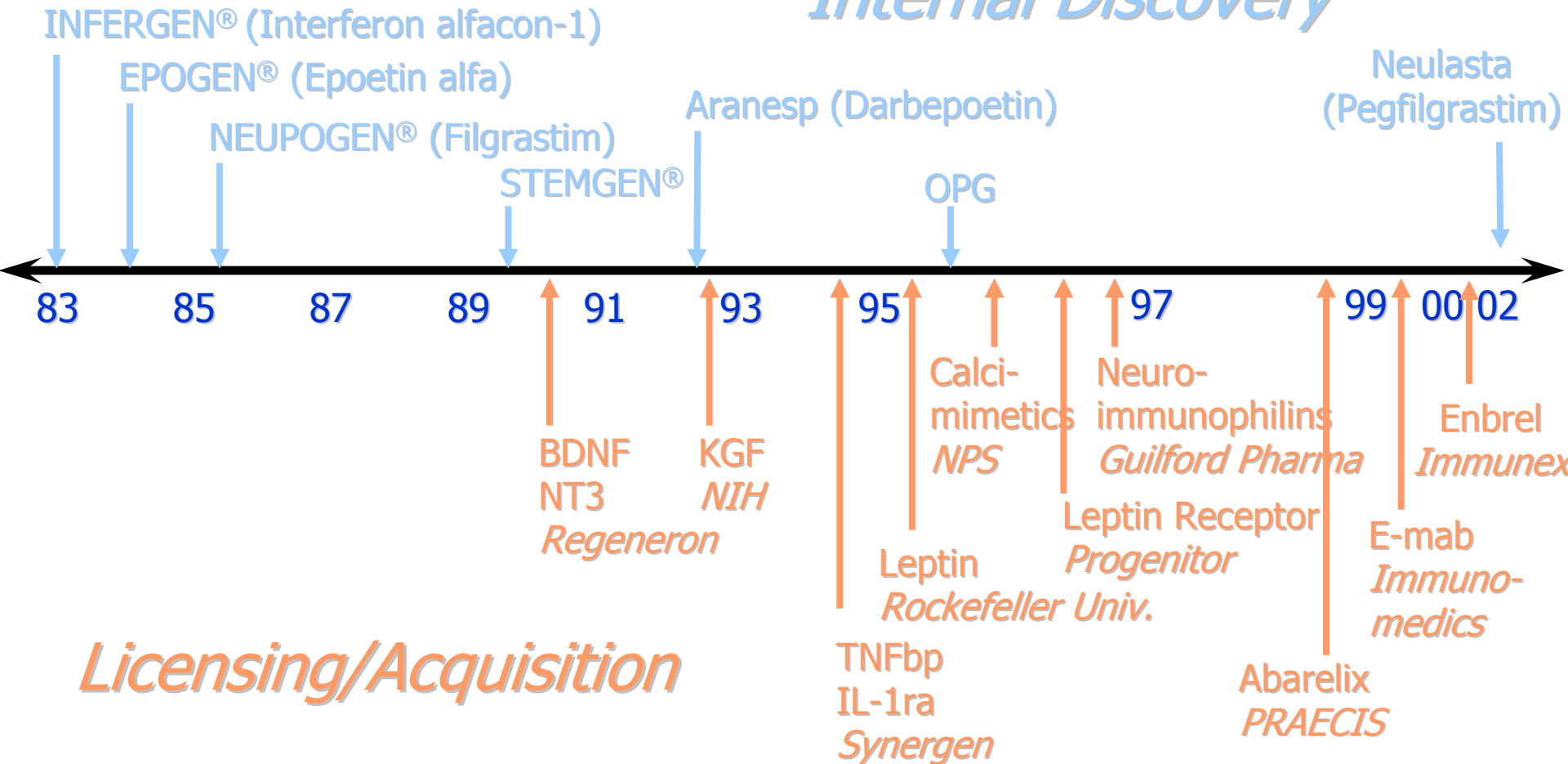


# Product and Market Analysis

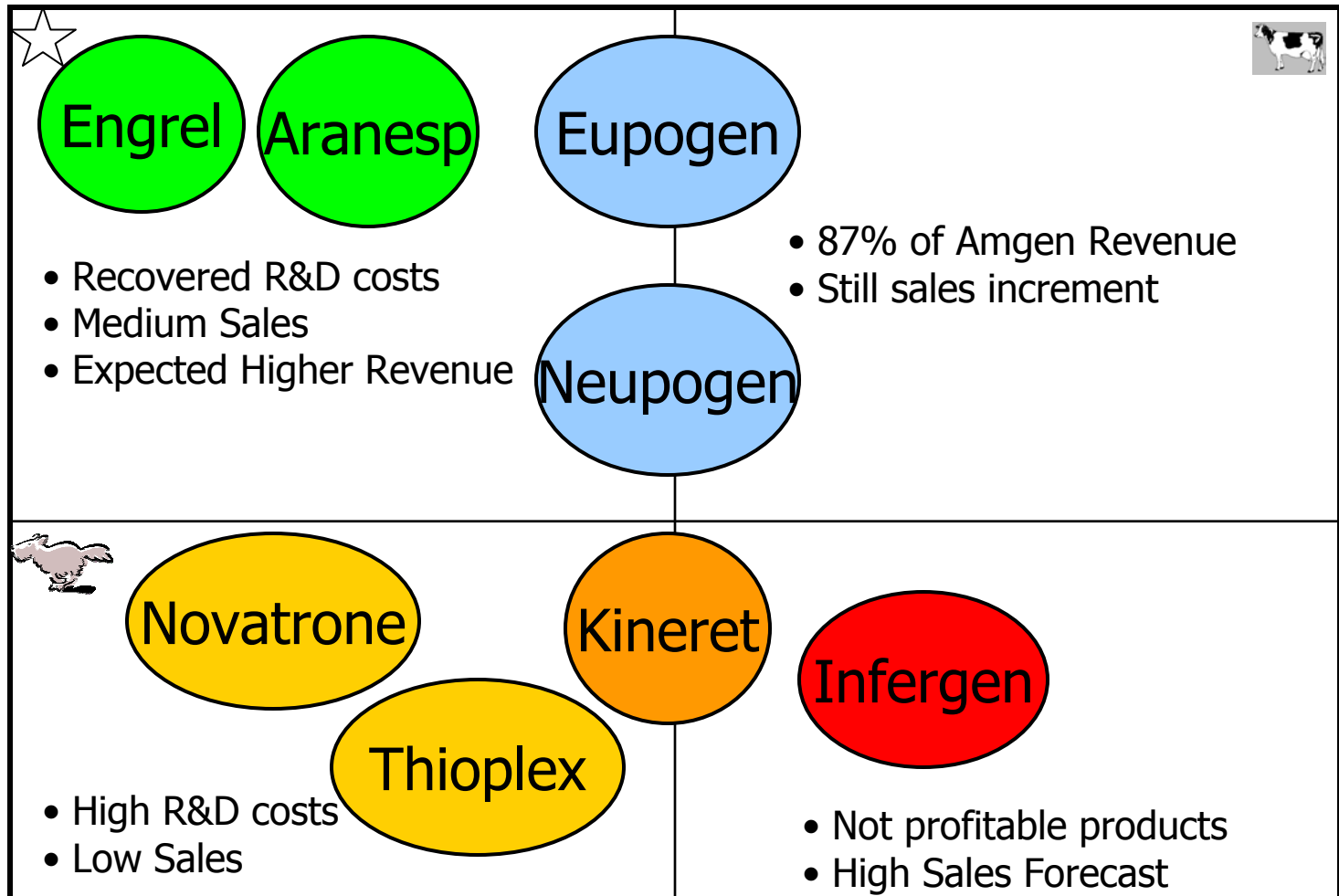
Product	Metabolism, Nephrology	Oncology	Inflammation, Bone Disorders	Neurologic, Metabolic Disorders
ARANESP	√	√		
EPOGEN	√			
NEUPOGEN		√		
NEULASTA	√			
ENBREL			√	
KINERET			√	
THIOPLEX		√		
NOVANTRONE		√		√

# Product Licensing and Discovery

## *Internal Discovery*



# Product Classification



# Strategic Alliances

Product	Alliance	Nature	Established
Epogen	Kirin Pharmaceuticals	Marketing (Japan and China)	1984
Neupogen	Kirin Pharmaceuticals	Marketing (Japan, China, Taiwan, Korea)	-
NESP	Kirin Pharmaceuticals	Marketing (Japan, China, Taiwan, Korea)	-
Epogen	Johnson & Johnson	Worldwide Marketing (Excluding Japan and China)	1985
Neupogen	Roche Holdings	Marketing (Europe)	1988
BDNF	Regeneron	Develop and Market BDNF	1990
Infergen	Yamanouchi	Worldwide Marketing (Excluding the U.S. and Canada)	1996
FKBP	Guilford Pharmaceuticals	Granted Amgen a license to worldwide marketing	1997
Abarelix	Praecis Pharmaceuticals	Develop and Market Abarelix	1999

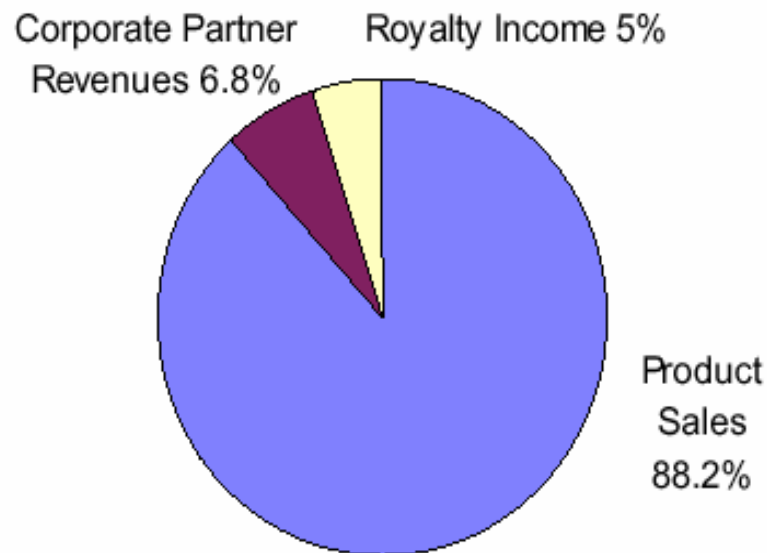
Source: Cornell Equity Research/Cornell University

- Announce 10 years research partnership with MIT in 1994
- Acquired Kenetix in 2000 and Immunex in 2002



# Strategic Partnerships & Alliances

## Breakdown of Revenues by Sector (2000)



Based on January 2001 Wood Mckenzie Company Reviews for AMGEN

- Product Sales of 3202.2m (88.2.%), YoY increase of 5.2%
- Corporate Partnership Revenues of 246.2m (6.8%), YoY increase of 52.5%
- Royalty Income of 181.0m (5%), YoY increase of 33.2%



# SWOT Analysis

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## Strengths

- High Level R&D spending (average, 26.4% of revenues)
- Well-established Epogen, Neupogen, and Infergen products.
- Steady Cash Flow
- Established procedures and strong experience for licensing.
- Strong sales force in the area of oncology
- Excellent “brand equity”. AMGEN products have an excellent reputation, and are well respected by patients, and more importantly, physicians (prescribers).
- AMGEN has collaborative arrangements with about 200 colleges and universities.
- IT expertise based on Immunex background.



# SWOT Analysis

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## Weaknesses

- The company does not have an extensive global distribution system relative to most major pharmaceutical firms (e.g. Pfizer).
- The lack of product diversification makes AMGEN more vulnerable to its competitors and to healthcare regulations.
- AMGEN lacks of marketing expertise
- Large fixed costs

# SWOT Analysis



## Opportunities

- Through its convenient California location,
- Development of a small molecule product.
- AMGEN has the opportunity to in-license and out-license new products.
- Aging affects AMGEN because many drugs and cures, such as arthritis and cancers, are produced for the older population
- Expanded product portfolio with Immunex products.
- Kineret has \$8 billion potential market by 2005.
- Entering into new markets: (Alzheimer's market and Small Molecule Product Development)



# SWOT Analysis

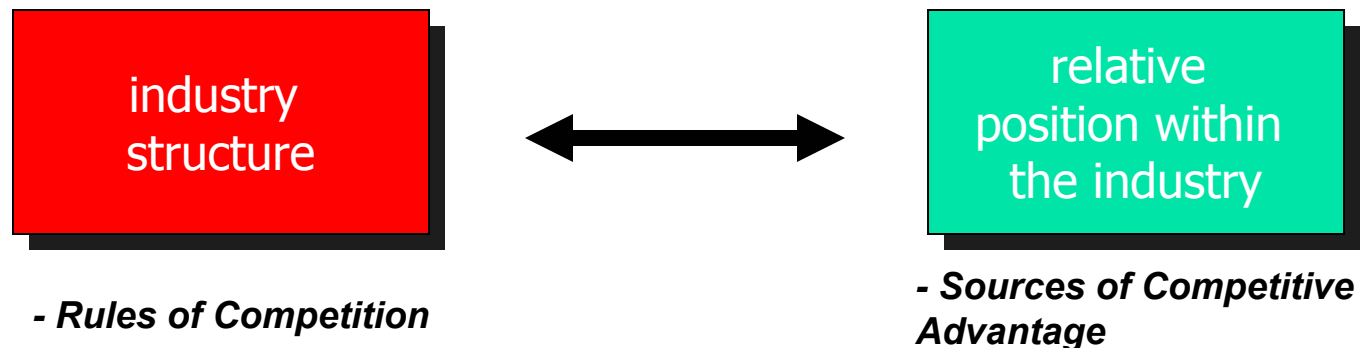
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## Threats

- Patenting and Licensing Battle
- Uncertainty of FDA Approval: Approval of ARANESP is delayed, resulting in lower near-term revenue and EPS
- Development of a less expensive alternative to Epogen or Neupogen by a competitor
- Strong influence of insurance companies in the health industry. Any change on policies greatly influence the revenues and profit of biotech firms
- Government Policies: Medicare reimbursement of ARANESP and Epogen

# The fundamentals of competitive strategy

- The fundamental unit of competitive strategic analysis is the **industry**
- Company economic performance results from **two** distinct causes:



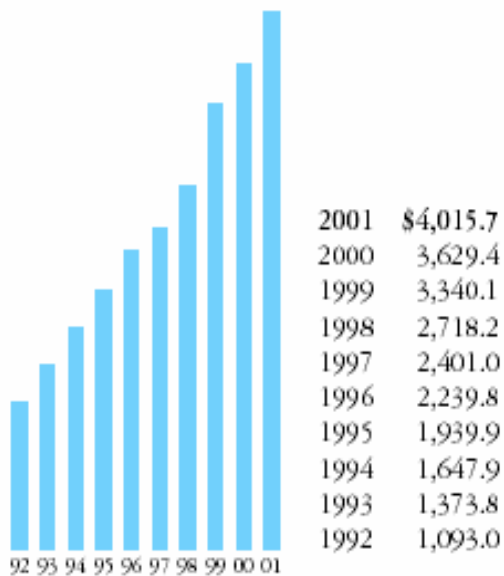
- Strategy must encompass **both**

# External Analysis

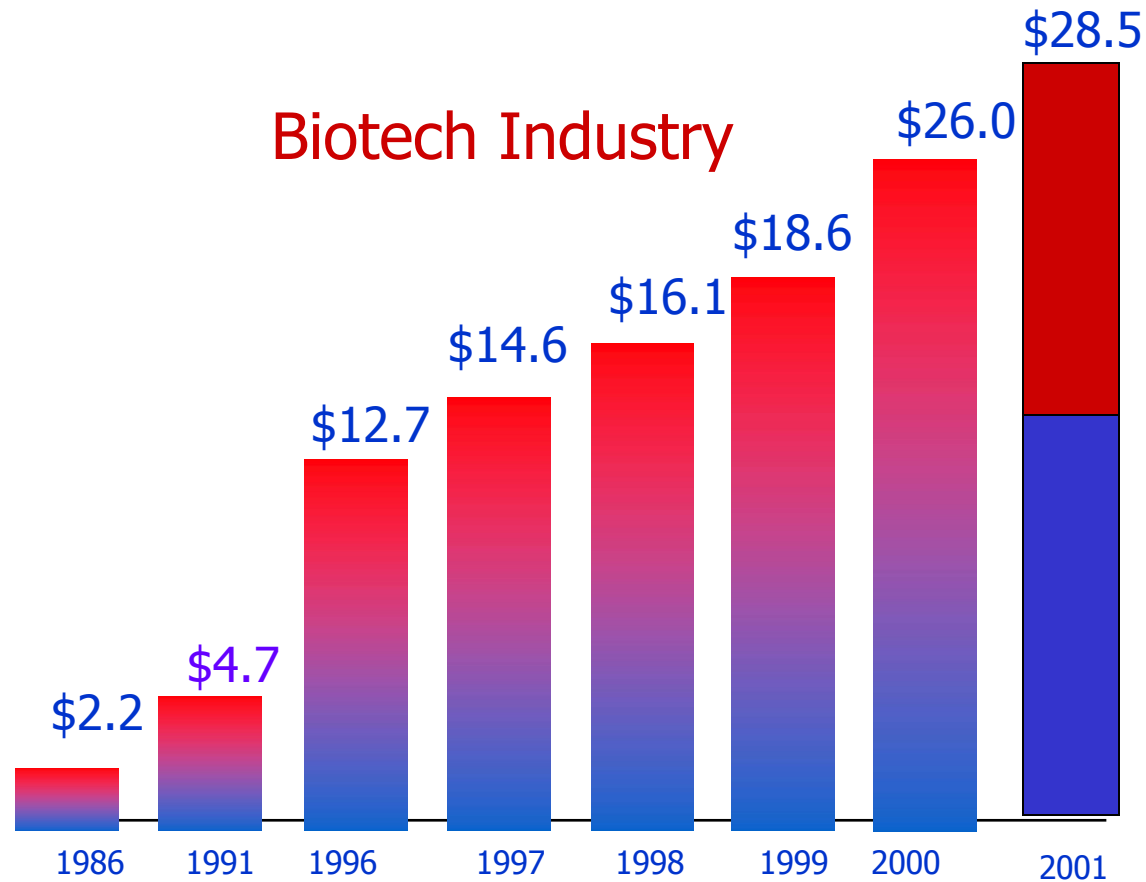
## Growing Market for Biotechnology

### AMGEN

Total Revenues  
(\$ in millions)



### Biotech Industry



***Biotechnology Industry Revenues  
(\$ billions)***

Source: BIO, AMGEN



## R & D Investment

<b>Pharmaceutical Industry (2000)</b>	<b>(20% of sales) Billions \$</b>
<b>All drug PhRMA members</b>	<b>\$38.01</b>
Pfizer	\$ 4.44
GlaxoSmithKline	\$ 3.84
Aventis	\$ 3.20
Johnson & Johnson	\$ 2.93
Astra Zeneca	\$ 2.89
Novartis	\$ 2.70
Pharmacia	\$ 2.75
Merck	\$ 2.34
Roche	\$ 2.34
Bayer	\$ 2.19

<b>Biotechnology Companies (2001)</b>	<b>(75% of sales) Millions \$</b>
<b>1,200+ biotechnology companies</b>	<b>&gt;\$9,000</b>

<u>Amgen</u>	<u>\$ 865</u>
Genentech	\$ 526
Millennium	\$ 400
Chiron	\$ 344
Biogen	\$ 315
Serono	\$ 308
Gilead	\$ 186
Genzyme	\$ 169
Human Genome Sciences	\$ 146





# AMGEN's Competitive Analysis

**Key Success Factors for Competitive Advantage:** good scientists, strong R&D investment, blockbuster drugs, good product and innovation process, skills in developing deals to get funding.

**Contingencies:** technological uncertainty and research success, FDA approval, patent protection and being first (second place does not count), market size, alternative drugs, legal environment, HMO growth/reimbursement issues.

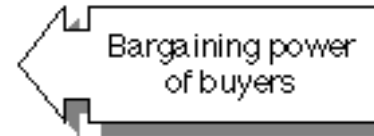
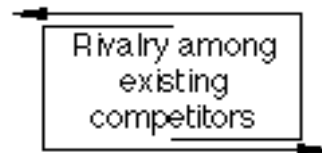
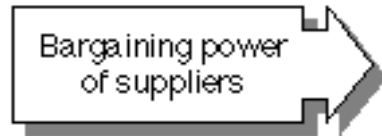
# AMGEN`s Competitive Analysis

## Porter's 5 Forces



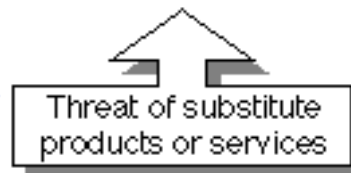
### Barriers for new biotech companies:

High cost of R&D  
Increasing technology cost (machinery and devices)  
High annual salaries for scientist  
Long waiting for FDA approval  
Access to distribution channels



Medicare, and  
healthcare policies  
prescription prices  
Insurance companies

Suppliers regulated by FDA  
AMGEN produces final product and  
also buy from suppliers  
Manufacture drugs to sell big companies  
to earn royalty income



Infergen: Intron-A (Schering-Plough market leader  
in Hepatit C  
ARANESP – Procrin Johnson & Johnson  
Epogen and NESP: (Erythropoietin TKT and  
Hoechst Marion Russel) for blood cell production  
Leptin (obesity drug): Millenium pharmaceuticals, Roche,  
Neurogen Inc. Pfizer, Genentech, Merck, Novartis Centocor Inc



# AMGEN's Competitive Analysis

## AMGEN's Competitors in Each Disease Area and Threat of Substitutes

Disease	Amgen Products	Amgen late stage product candidates	Amgen's competitors in each disease area
<b>Anemia</b> (More than 1 million people in the U.S)	<b>EPOGEN</b> (patent expires 2015)		Abbott, Pfizer, Hoechst, Marion, Russel, Transkaryotic Therapies
<b>Cancer</b> (More than 8 million people around the world)	<b>NEUPOGEN</b> (patent expires 2014) <b>ARANESP</b> (patent expires 2018)	SD/01	Pfizer, Novartis Johnson & Johnson (Procrit)
<b>StemCell Transplantation</b>	<b>NEUPOGEN</b>		Merck
<b>Obesity</b> (\$33 billion annually)	<b>LEPTIN</b>		Millenium Pharm. Merck Progenitor Inc, Novartis,
<b>Rheumatoid arthritis</b> (2 million people)	<b>KINERET</b> <b>ENBREL</b>		Abbott (Remicade, DE27), Pfizer, Centocor
<b>Hepatitis C</b>	<b>INFERGEN</b>		Schering-Plough, Biogen



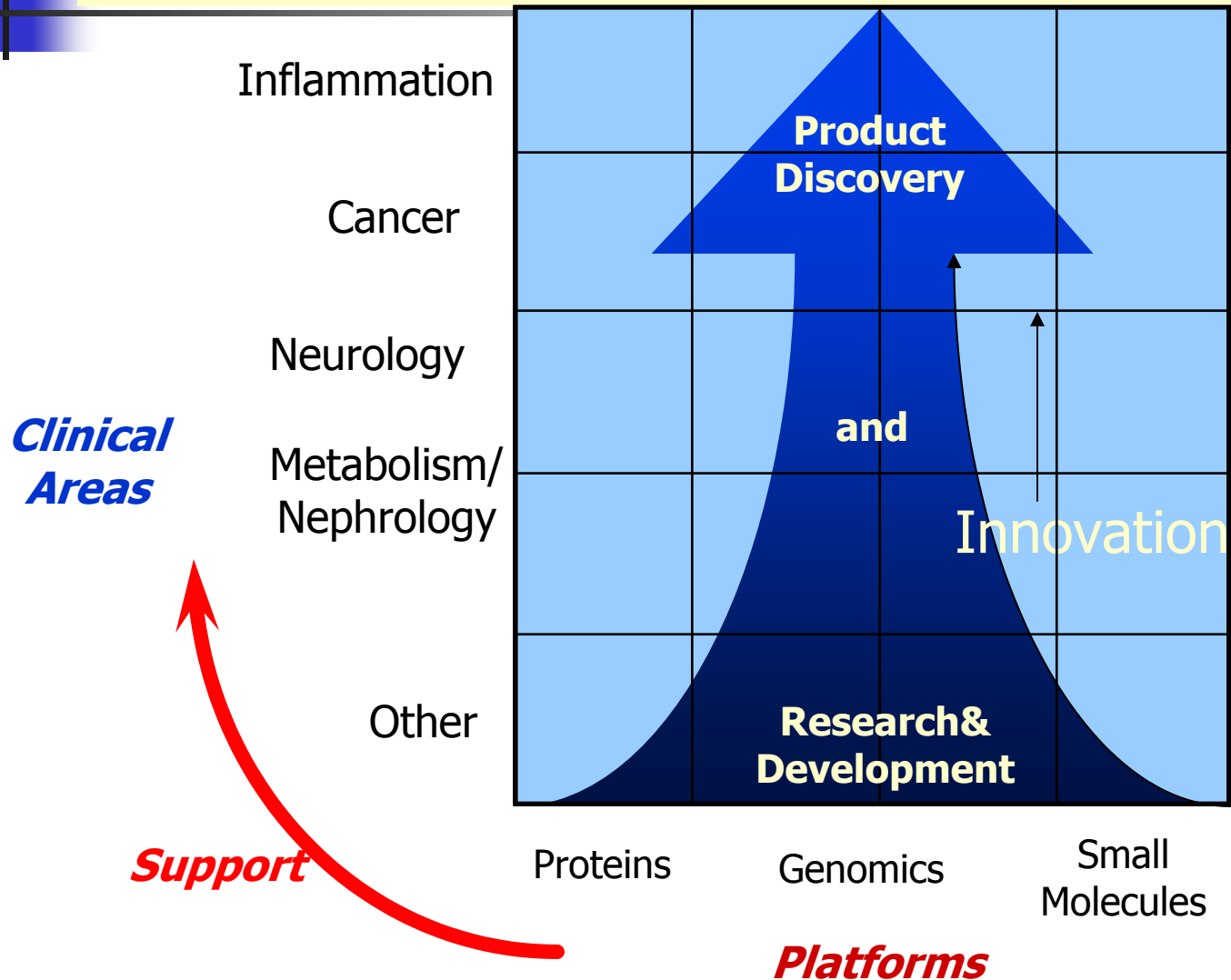
## What is AMGEN's Competition Strategy ?

“R&D is the *l i f e b l o o d* of any therapeutics endeavor, but it's much more than that at Amgen. It goes to the very core of our identity.

*Our Success comes from one simple-fact- we are committed to being a science-based, patient driven company.”*

Kevin Sharer  
CEO of AMGEN

# Technology Bases for Research and Development



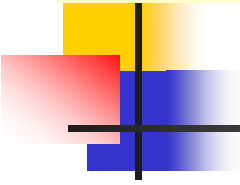


# “Science Push & Patient Pull” Strategy

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- ✓ Successful biotechnology firms live on the innovation edge, AMGEN has very strong scientific knowledge and the company established its competitive innovation strategy based upon strong scientific knowledge which comes from R&D.
- ✓ Conventional wisdom says listen to the market. Most pharmaceuticals companies, and quite a few biotech ones as well, are basically market-driven.
- ✓ AMGEN heard things differently. Rather than start with the disease and work back to the science, AMGEN assumed that the opposite strategy is superior—that companies should take brilliant science and find a unique use for it.

# Managing Technology with AMGEN's Formula

- 
- Creating innovation and new technologies based on strong scientific knowledge
  - Invest in R&D at an industry leading percentage of sales.
  - Aggressively build and advance the product pipeline.( by 2005 which will enable the company to participate in new markets with an estimated value of \$13 billion )
  - Attract and retain the best people (managers and scientist).
  - Being very active in both licensing new technologies and establishing various forms of collaboration and partnership.
  - Balance short term earnings with investment for long-term growth.
  - AMGEN conducts in-house development of the technologies it sees as being very important to the company's future.
  - Research collaboration with universities.



# Conclusion/Lessons Learned

- ✓ The advantage of technology leadership is the opportunity to move first and profit first before competitors.
- ✓ Both proactive and reactive product strategies provide a business with a healthy investment portfolio and can create a successful competitive position.
- ✓ Amgen's competitiveness and success depends on superior scientific innovation, integrity, and continuous improvement in all aspects of business through the application of the scientific method.
- ✓ Cash flow products in science-based industry are key factors to business survival in a long term.
- ✓ Aggressive R&D and continuous product & process improvement will assure future profit.
- ✓ Alliances can bring fast and achievable capabilities as well as profits that a company cannot deliver in a timely manner.





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# Questions & Comments