EMMETT J. MURTHA

PRESIDENT & CEO
FAIRFIELD RESOURCES INTERNATIONAL, INC.
STAMFORD, CONNECTICUT

Emmett Murtha formed Fairfield Resources International in 1997 after 35 years with IBM Corporation. The firm serves clients interested in developing, organizing and leveraging their intellectual assets, as well as in related strategy development and licensing transactions.

At IBM, Mr. Murtha was named Director of Licensing in 1981, leading a group which acquired rights from others under patents, copyrights, trademarks and technology, and also granted licenses under IBM's intellectual property. He was responsible as well for worldwide licensing policies and practices. Between 1987 and 1997, IBM's annual royalty revenues grew by over seven thousand percent.

From 1993, Mr. Murtha was responsible, as Director of Business Development, for finding new ways to leverage IBM's intellectual property and related strengths. Again, results were dramatic, with substantial transactions in medical technologies, and a continuous stream of future revenue opportunities clearly identified.

He has been a member of Licensing Executives Society for many years, including as an officer and a member of the Executive Committee. Mr. Murtha was President of the Society 1999-2000. He also headed the Intellectual Property unit of the National Advisory Committee on Semiconductors, is a frequent speaker on licensing, negotiating, and related topics, and is an Editorial Board member and a contributor of *The Licensing Journal* and *Patent Strategy and Management.*

Mr. Murtha has a degree in Accounting from the University of Connecticut and has completed executive programs at Columbia University Graduate School of Business and Harvard Business School. He is a member of the Board of Directors of the University of Connecticut Research and Development Corporation, and is also a Director of Indigo Memory Systems and Composite Ceramic Technologies LLC, both early stage high tech companies, as well as a member of the Advisory Boards of the Intellectual Property Management Institute and of the Information Technology Fund, which invests in emerging high technology companies.

10/01

LICENSING AS A BUSINESS

ELEVENTH ANNUAL ADVANCED LICENSING INSTITUTE

FRANKLIN PIERCE LAW CENTER

July 16, 2002

Licensing as a Business

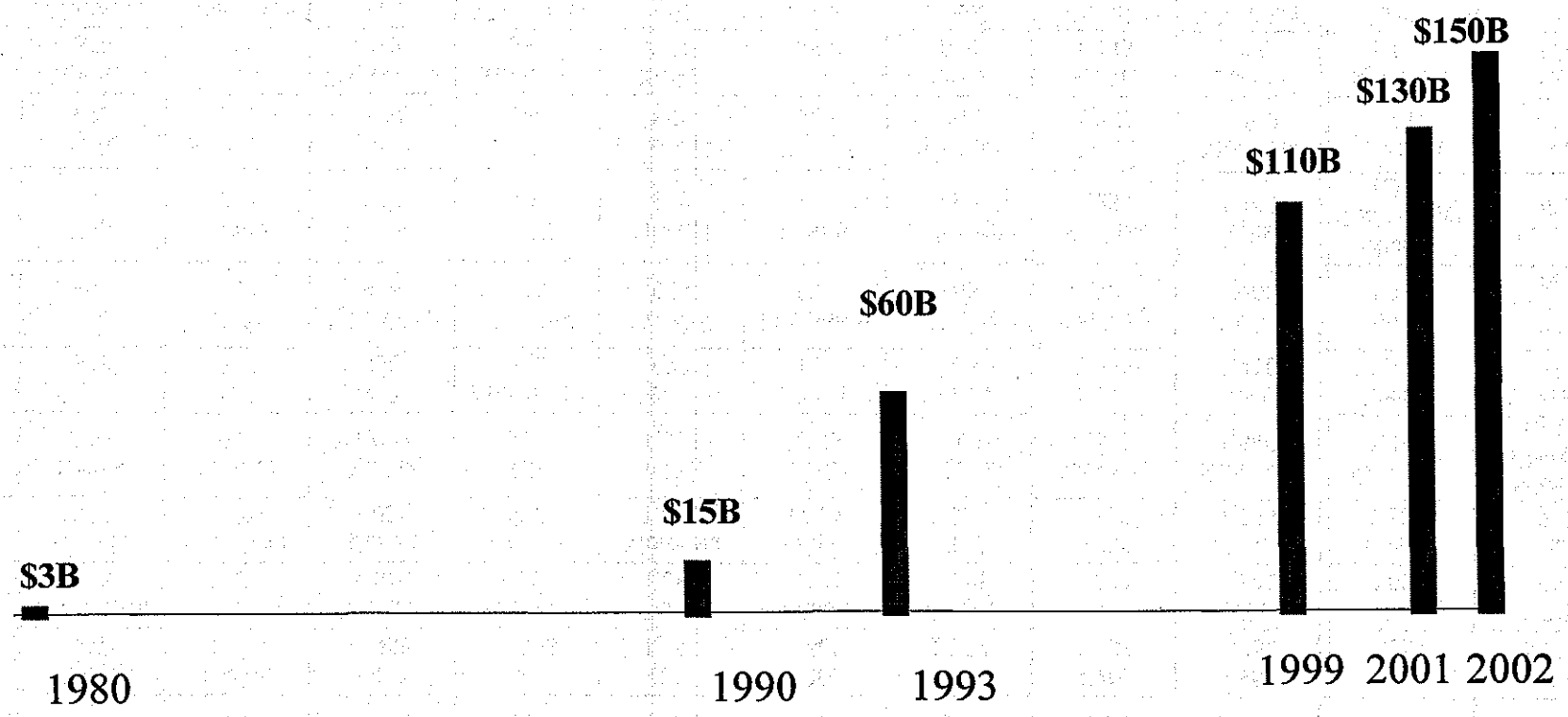
- Trends in Intellectual Property
- US patent royalties
- Alternatives to licensing
- IP management styles
- Success factors
- Royalty benchmarks
- Examples of non-core licensing
- IP profile: large high tech companies
- Case study: IBM Corporation
- Lessons learned
- Common myths
- Patent factory
- Licensing process
- Expanding your licensing opportunities
  - Outsourcing
  - Risk management

Trends in Intellectual Property

US Patents Issued for Top 10 Companies

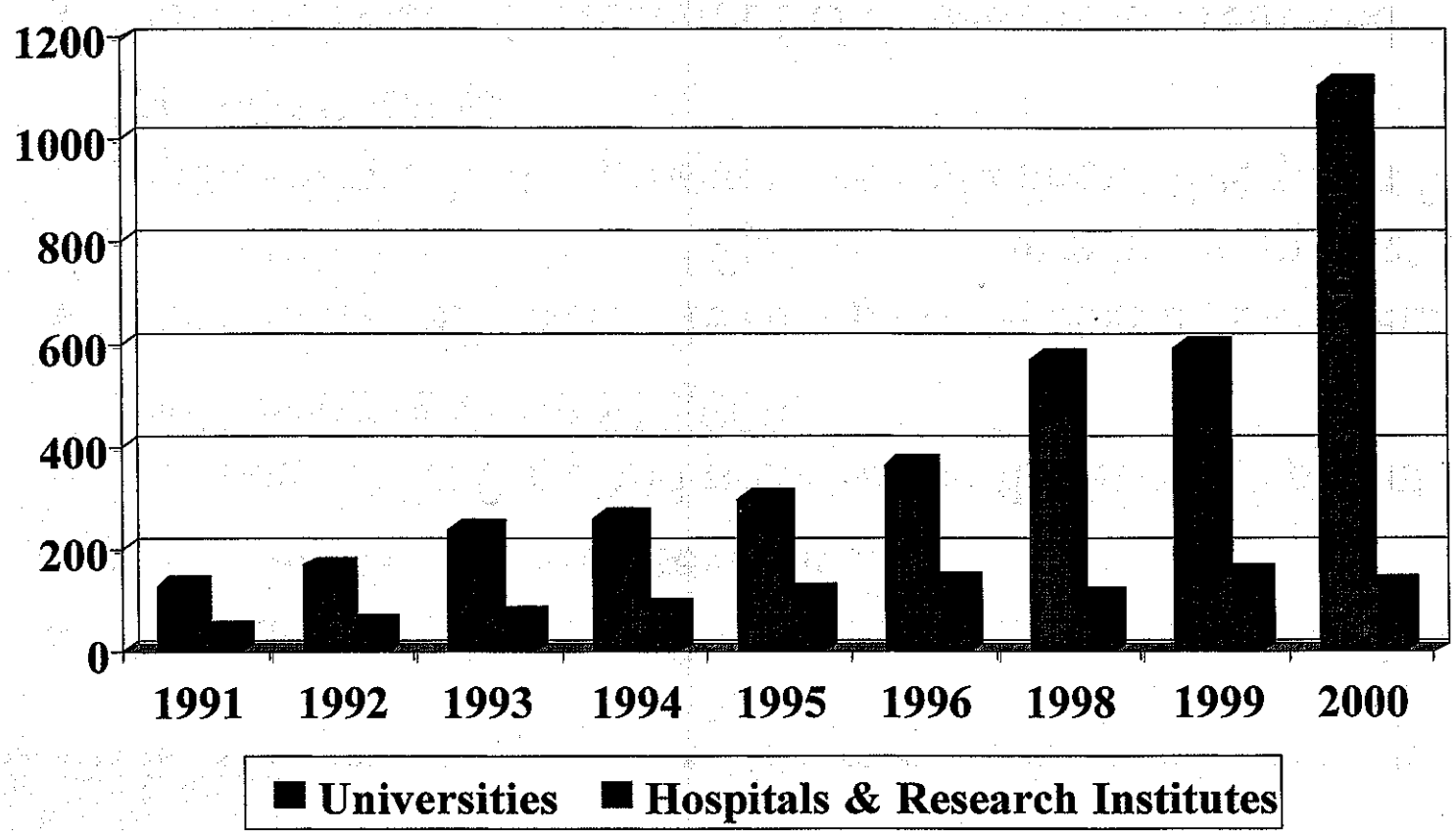
Rank	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1	Toshiba 1,014	Canon 1,106	**IBM 1,085**	**IBM 1,298**	**IBM 1,383**	**IBM 1,867**	**IBM 1,724**	**IBM 2,685**	**IBM 2,756**	**IBM 2,886**	**IBM 3,454**
2	Mitsubishi 936	Toshiba 1,020	Toshiba 1,040	Canon 1,096	Canon 1,087	Canon 1,541	Canon 1,381	Canon 2,011	NEC 1,842	NEC 2,020	NEC 2,041
3	Hitachi 927	Mitsubishi 957	Canon 1,038	Hitachi 976	Motorola 1,012	Motorola 1,064	NEC 1,095	NEC 1,639	Canon 1,795	Canon 1,890	Canon 1,918
4	Kodak 863	Hitachi 951	Kodak 1,007	GE 970	NEC 1,005	NEC 1,043	Motorola 1,058	Motorola 1,542	Samsung 1,545	Samsung 1,441	Micron Technology 1,724
5	Canon 823	GE 937	GE 932	Mitsubishi 970	Mitsubishi 973	Hitachi 963	Fujitsu 903	Sony 1,445	Sony 1,410	Lucent 1,411	Siemens 1,715
6	GE 809	**IBM 842**	Mitsubishi 926	Toshiba 968	Toshiba 969	Mitsubishi 934	Hitachi 903	Samsung 1,308	Toshiba 1,200	Sony 1,385	Matsushita Electric 1,666
7	Fuji 731	Kodak 775	Hitachi 912	NEC 897	Hitachi 910	Toshiba 914	Mitsubishi 892	Toshiba 1,237	Fujitsu 1,193	Micron Technology 1,304	Lucent 1,633
8	**IBM 679**	Motorola 658	Motorola 729	Kodak 888	Matsushita 854	Fujitsu 869	Toshiba 862	Fujitsu 1,232	Motorola 1,192	Toshiba 1,232	Samsung 1,623
9	US Philips 650	Fuji 640	Matsushita 712	Motorola 837	Kodak 772	Sony 855	Sony 859	Kodak 1,145	Lucent 1,152	Motorola 1,196	Hitachi 1,494
10	Motorola 613	Matsushita 608	Fuji 632	Matsushita 771	GE 758	Matsushita 841	Kodak 795	Mitsubishi 1,092	Mitsubishi 1,054	Fujitsu 1,147	Sony 1,443
US Total	106,698	107,394	109,746	113,587	113,834	121,696	124,068	163,147	169,086	175,980	183,975

US Patent Royalties*



*Based on *The Economist, The Patent Wars, SmartPatents and Todd Dickinson (US Commissioner of Patents and Trademarks)*

Patent Licensing Revenues for U.S. Universities, Hospitals and Research Institutes



Licensing as a Business Patents

- The number of patent filings has been increasing at about the same rate as licensing revenues.
- The cost of drafting and prosecuting the average patent application is about $12,000.
- The average **effective** life of a patent—that is, the average time until the product or feature it covers in the market is replaced by a better product—is only about five years from the date it issues.
- Only thirty-seven percent of U.S. patents are renewed 11.5 years after they issue.

Licensing as a Business
Patent Licensing

- About 3 percent of all patents are licensed.
- In 2002, U.S. patent licensing revenue will reach about $150 billion.
- The average licensing value of any random patent is roughly $216,000.
- The bottom 50 percent of patents account for only about 10 percent of aggregate patent value, while the top 10 percent of patents account for about 40 percent of it.

Licensing as a Business
Patent Licensing (Cont'd)

- Ninety-seven percent of patents are not licensed. The majority of patents are not licensed because the technology they protect is not useful, feasible or marketable. But many are not licensed because their owners secure more value by monopolizing the technology than by licensing it out. This is especially true in small or niche markets.
- Many people would argue that most of the value of patents lies not in what is actually collected from litigation or licensing, but from the market advantage they secure.

Licensing as a Business
Patent Litigation

- Only about 1 percent of U.S. patents are ever litigated.
- Only 54 percent of patents that are litigated are held valid.
- Plaintiffs win the whole case about half of the time.
- In 1000 patent trials from 1990-1999, there were only 249 money damage awards.
- The average district court patent damage award is $18 million. (Median is $5 million.)
- Attorney fees and costs average about $1.5 million per side.
- A victorious plaintiff wins attorney fees and costs about half of the time.

Licensing as a Business
Patent Litigation (Cont'd)

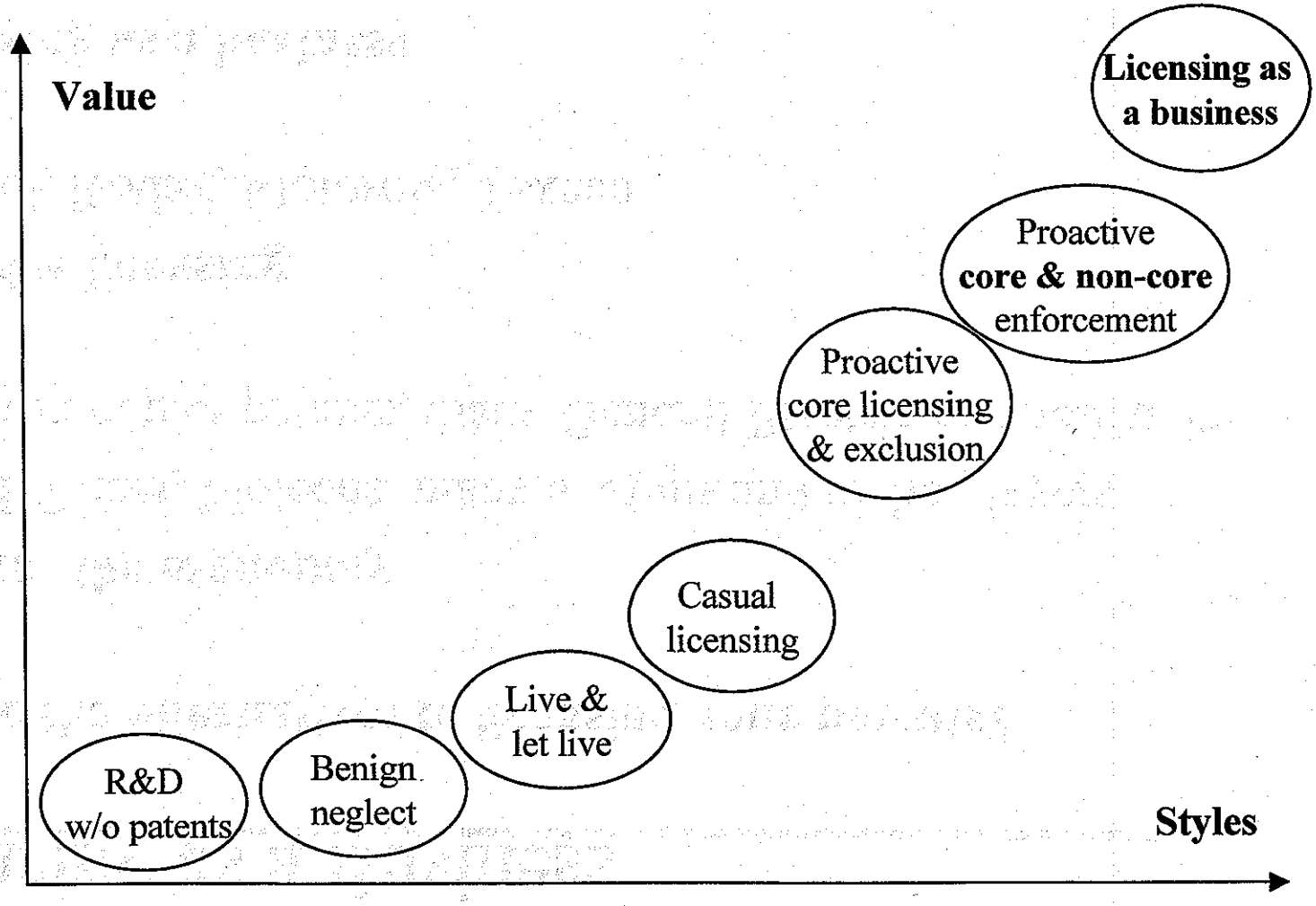
- About 61 percent of damage awards are appealed. About 32 percent of these are reversed and remanded, 41 percent affirmed and 26 percent modified.
- The average litigated patent is litigated 10 years after it is filed.
- Litigation lasts an average of at least two years.

Licensing as a Business

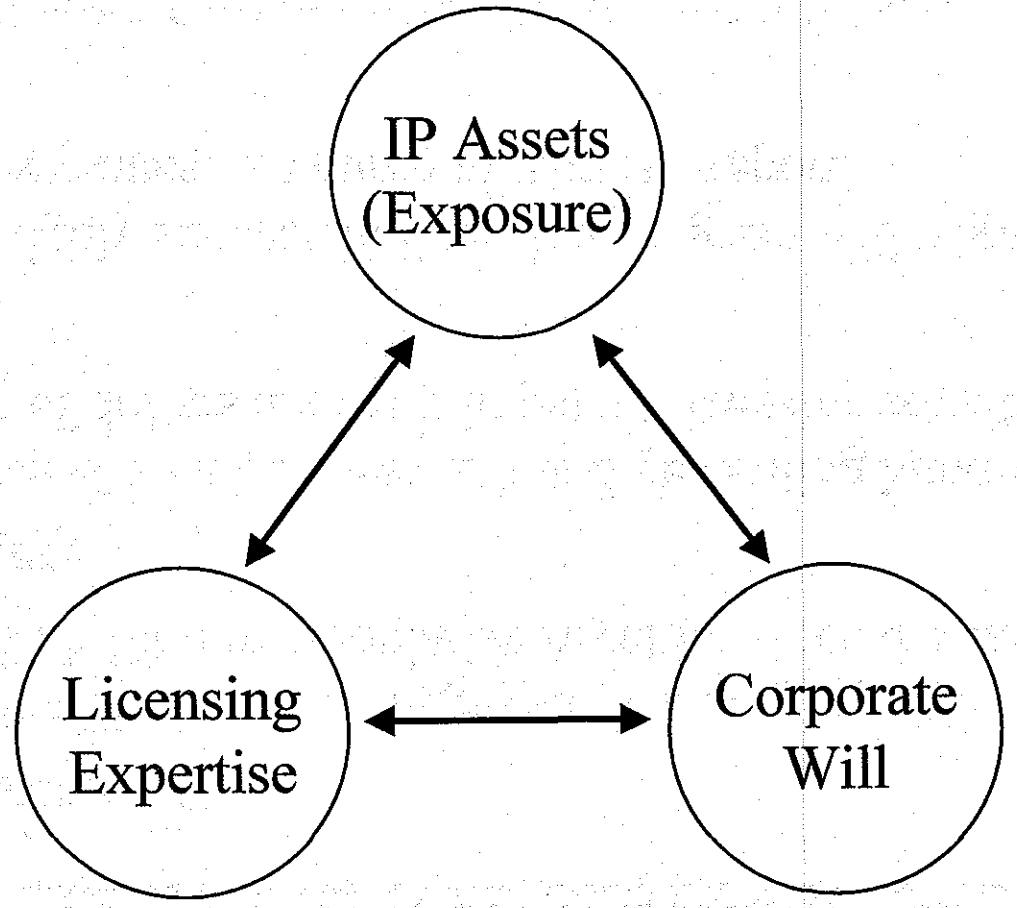
What are the alternatives to licensing your patents?

- **Practice the monopoly**
  - 3M, Pfizer, biotechs, many startups and niche players
  - Xerox copier patents, many General Electric business units
- **Selective licensing**
  - Intel, Kodak, Motorola, Texaco
- **Licensing as a business**
  - Canon, Dow Chemical, Texas Instruments, Lucent & IBM

IP Management Styles



Success Factors



Licensing as a Business
Royalty Income: Selected Examples

- Texas Instruments
  - Made over $700 million in patent licensing royalties in 1995 and almost $3 billion in cumulative royalties since the early 1980s
- Lucent/Agere
  - Managing IP as a business unit and generating hundreds of millions of dollars annually in patent licensing royalties
- Canon
  - Runs a highly successful licensing program with significant royalty revenues. Featured in Annual Report.
- IBM
  - Generating $1.6 billion annually in royalty income, which grew nearly 10,000% since 1987

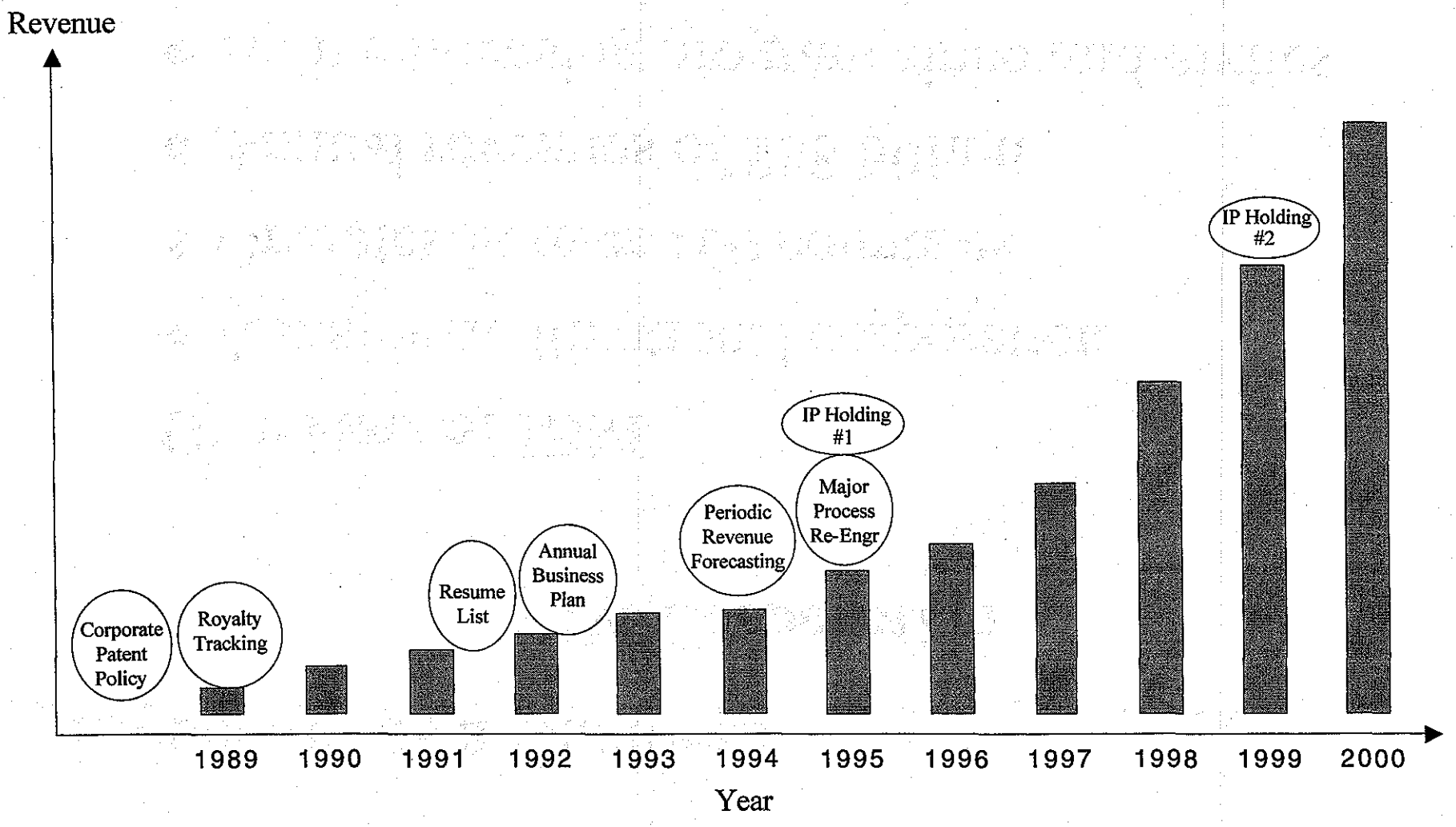
Examples Of Non-Core Licensing/Sale

Company	*Non-Core Activities*	*Income*
Honeywell	Auto focus patents licensed broadly	$400M+
IBM	Eximer laser patents sold to LaserSight	$15M
	Wave division multiplexing patents sold to Tellabs	$6M
Cirrus Logic	Graphics patents sold to S3	$40M
Dytel	Voice processing patents sold to Syntellect	$3.7M
Lucent	Various non-core programs covering musical instruments, consumer electronics, office products, healthcare, horticulture, automotive, manufacturing, toys, PC software, etc.	Confidential
GE	Highly established non-core programs covering various markets	Confidential

Intellectual Property Profile of Typical Fortune 100 High-Tech Companies

Metrics	Present	Potential
Royalty income	<$10MM	$100 to $500MM
% of market licensed	Unknown or <5%	70%+
% of royalty income from non-core areas	<1%	10 to 20%
% of patents that generate royalty	Unknown or <1%	5 to 10%
% of patents that are used in own product design	Unknown or <5%	10 to 30%
No. of patents per $10MM R&D	<1	3 to 6

Evolution of Patent Licensing Business at Lucent



Licensing as a Business

IBM Corporation

Overview of IBM

- A major multinational corporation
- Operates in over 160 countries
- Annual revenues of $88 billion
- Active licensing program since mid-sixties

Licensing as a Business

IBM's IP Assets

- Approximately 34,000 patents worldwide
  - Leader in U.S. patents issued since 1993
- Over 10,000 trademarks
- Vast portfolio of technology and software
- All intellectual property controlled by HQ
- Centralized licensing management
  - Licensing activity run as a business
  - Multinational staff
- Over 1300 active patent license arrangements
  - Almost half non-U.S.

Licensing as a Business

- In 2001, IBM got twice as many patents as in 1997
- IBM received 1400 more patents than #2 NEC
  - The margin in 1997 was only 343
- Breadth of new patents (for 2000)
  - 1000 in software
  - 1000 in microelectronics
  - 400 in storage
  - 500 more in other areas
- One third of the IBM technologies patented in 2000 were already in the marketplace

Licensing as a Business

IBM's Licensing Policy & Practices

- Information handling systems
  - Generally open licensing policy
  - Non-discriminatory terms
  - Reasonable worldwide royalty rates
  - 1% sales revenue per patent used; maximum of 5%
  - $25,000 creditable fee
  - No minimum payments
  - IBM gets a license option - on same terms
- Other fields (non-core)
  - Laser, medical, chemical
  - Case by case

Licensing as a Business

IBM Corporation

Licensing Objectives

- Maximize return on intellectual property
  - IP is not like other assets:
    - » It is not on the balance sheet
    - » return highly profitable
    - » short shelf life
- Secure freedom of action through cross-licensing
  - Assure developers not blocked
- Promote open systems and greater use of IBM technology
  - by granting access
  - software availability for customers
- Gain access to other technologies
- Enable vendor and manufacturing relationships

Licensing as a Business

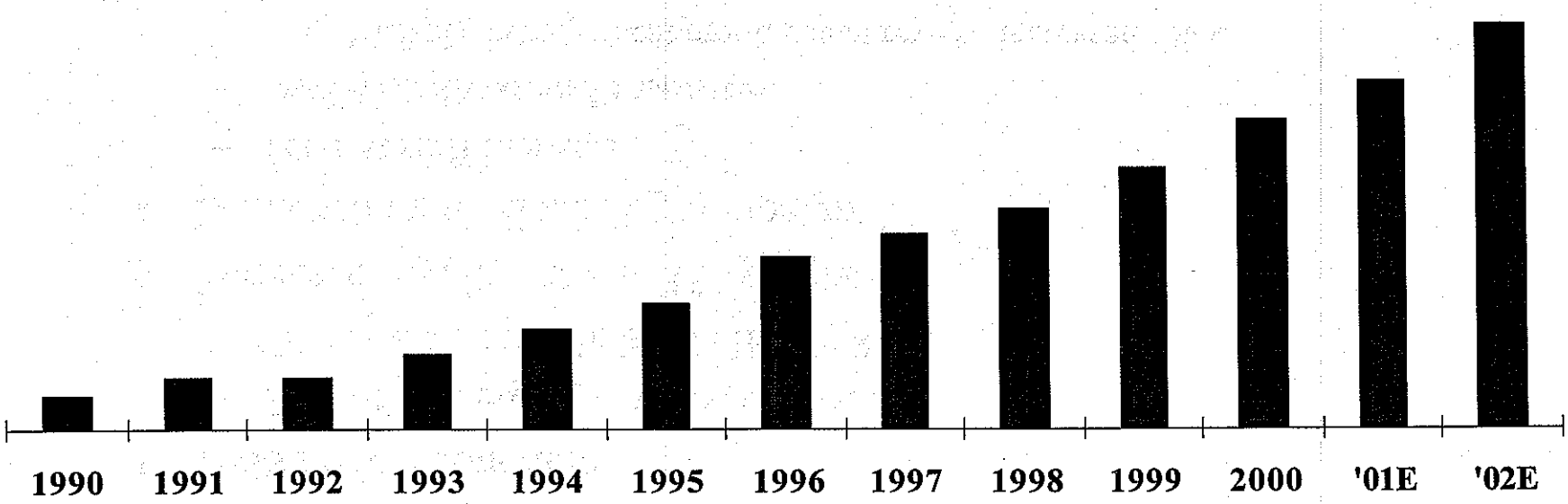
Practices reviewed periodically

- 1988 review concluded:
  - Rate of existing royalty was too low
  - Others were capitalizing on IBM's R&D
- Increased royalty rates to 1% per patent
- Launched major licensing campaign
  - Modest staff increase
  - **Involved divisional resources**
    - » Analysis, infringement proof, patent review, increased filing

Results:

- Revenue grew by nearly 10,000% since 1987
  - **All income credited to divisions**
- Minimal litigation

IBM's Licensing Income

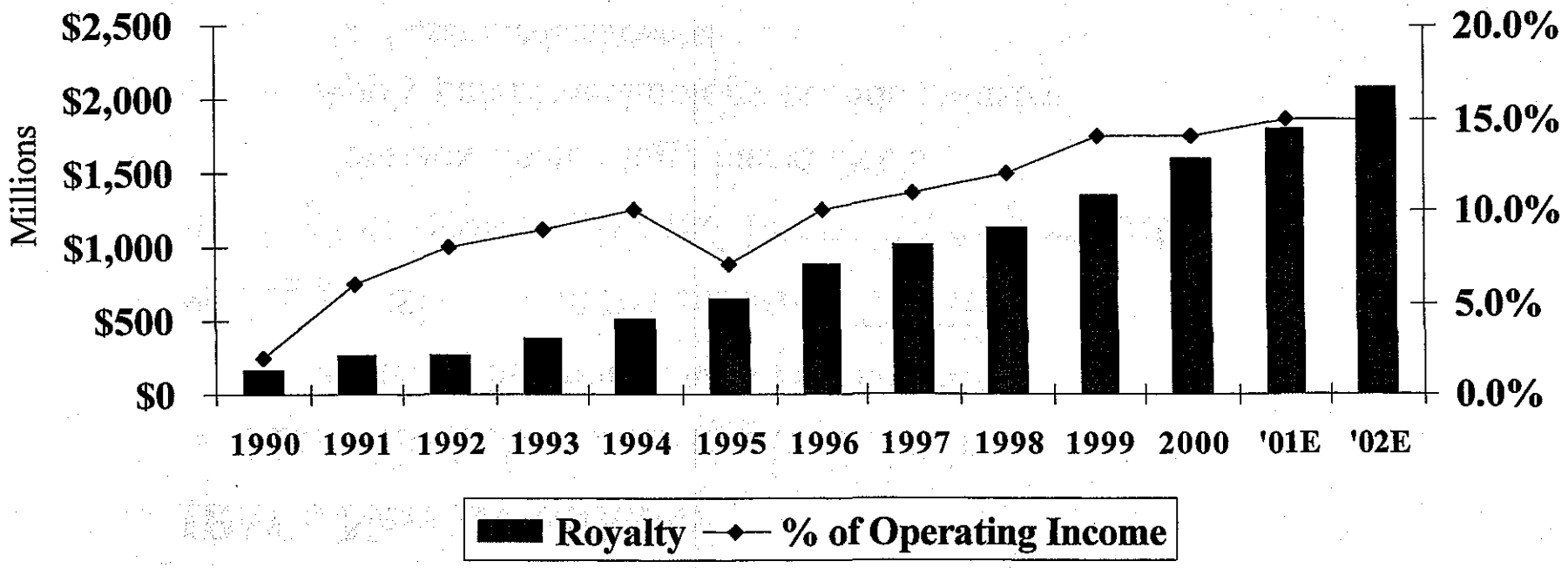


Licensing as a Business

IBM's New Directions:

- Maintain U.S. patenting leadership
  - Focus on inventions with licensing value
- Aggressive, selective non-U.S. filing
- Exploit non-traditional licensing opportunities
  - Complex Technology-based Deals
  - Apply patents/technology outside industry
    - » Laser medical/dental
    - » Polymer chemistry
    - » Electronic entertainment
    - » Medical diagnostics and instruments
- Trademark licensing
- Involve outside consultants and engineers*

IBM's Patent and Technology Royalty Revenues 1990-2002



Source: Salomon Smith Barney

Licensing as a Business

Lessons Learned at IBM

- Intellectual property is easily undervalued
- A persistent, professional and reasonable program can yield surprising results
- Involvement of business units is vital
- Litigation is a risk, not a necessity

Common Myths about Patent Licensing

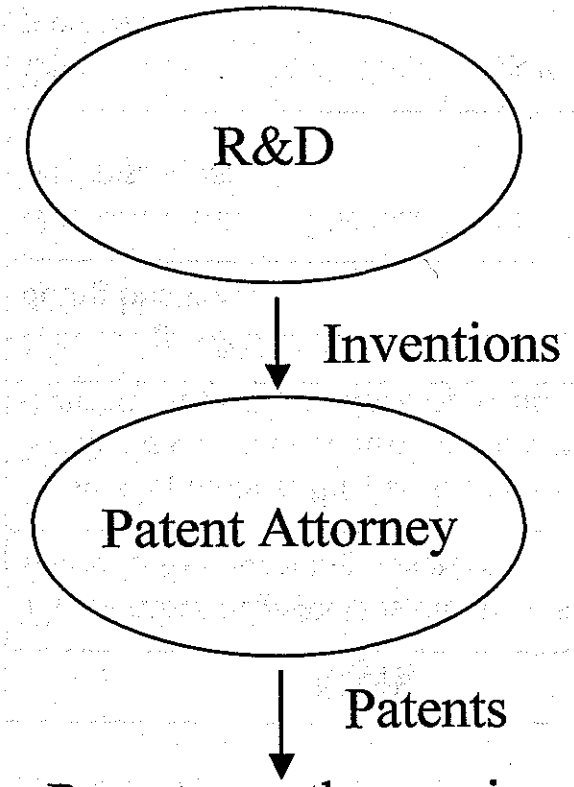
Myths	*Reality*
All it takes to generate licensing income like IBM and Lucent is to assign staff.	It requires not only headcount but expertise (which can be hired or developed with training).
Return on investment (ROI) should be almost immediate.	Major negotiations even for best in class companies take 1?-2 years, plus about ? year for preparation.
Licensing = Negotiation	Other critical functions are infringement detection, market planning/prioritizat ion, negotiation planning & strategy, and enforcement policy.
Licensing income will automatically grow if people work harder and become tougher during negotiations	Process management (including a business plan and metrics) is required for breakthrough improvement.
Biggest hit = Biggest opportunity.	Your exposure can be much greater than theirs
Close more deals to increase revenue.	All deals are not of equal value. 80% of revenues comes from 20% of deals.
Checking out other party 's R&D spending and number of patents is sufficient for negotiation planning.	Systematic "portfolio mapping " can reveal critical data (e.g. reciprocal product exposure).
One can license only in its main business field.	Non-core licensing or sale can be highly lucrative.

Common Myths About Patents & Licensing

Myth	Reality
The number of patents is the most important factor in the licensing business.	Many major Asian companies are paying significant royalties to US companies with fewer patents.
IP development is the passive result of R&D. One cannot control the quality or quantity of portfolio development.	The idea of a "patent factory" and "portfolio mapping" has produced phenomenal results for some companies. Screening for licensing value yields quality patents.
Licensing/R&D is the necessary cost of doing business.	Licensing/R&D can be managed as a profit center. Royalty income goes straight to the bottom line.
One can create and license IP only in core business areas.	Both IBM and Lucent have non-core licensing programs that are highly successful. Non-core technologies often provide value in broad cross-licensing deals.
One cannot do much about outgoing royalty payments.	Effective IP strategies can ensure significant royalty reduction in licensing deals.
Patents are only for protecting existing markets.	Patents often play central roles in developing new markets through selective licensing, exclusion or alliance.

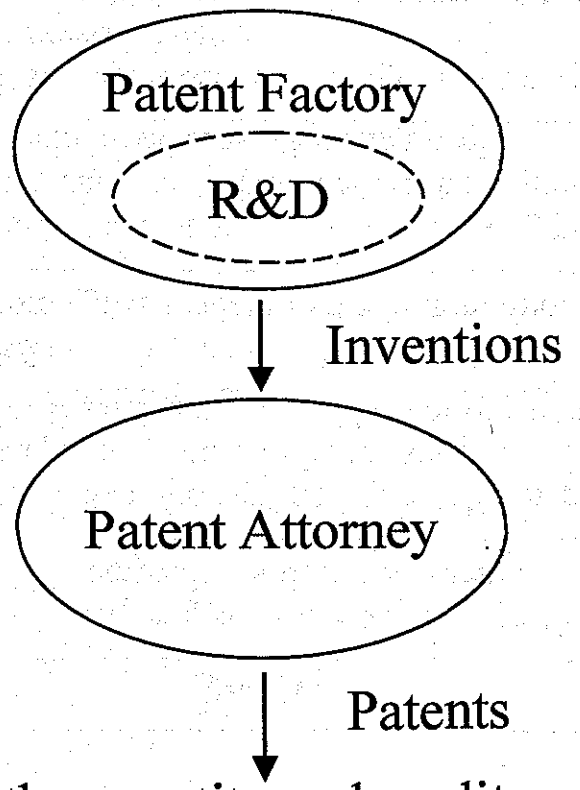
Patent Factory

Traditional Approach



Patents are the passive result of R&D!

Improved Approach

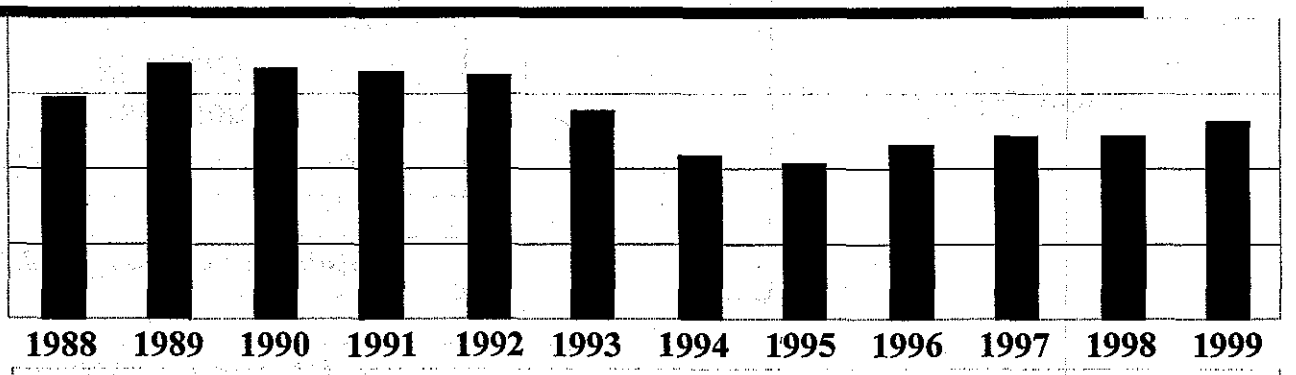


Both the quantity and quality of patents are controlled by the patent factory!

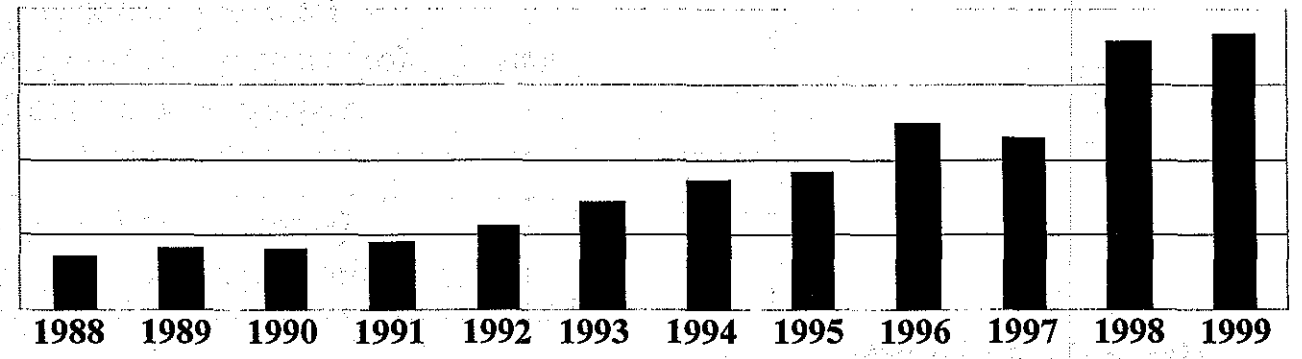
Patent Factory

IBM Implementation

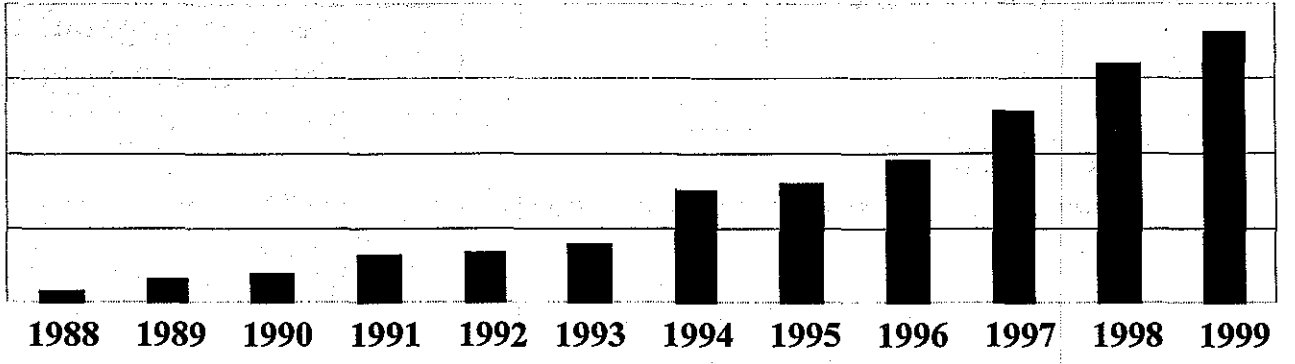
R&D Spending



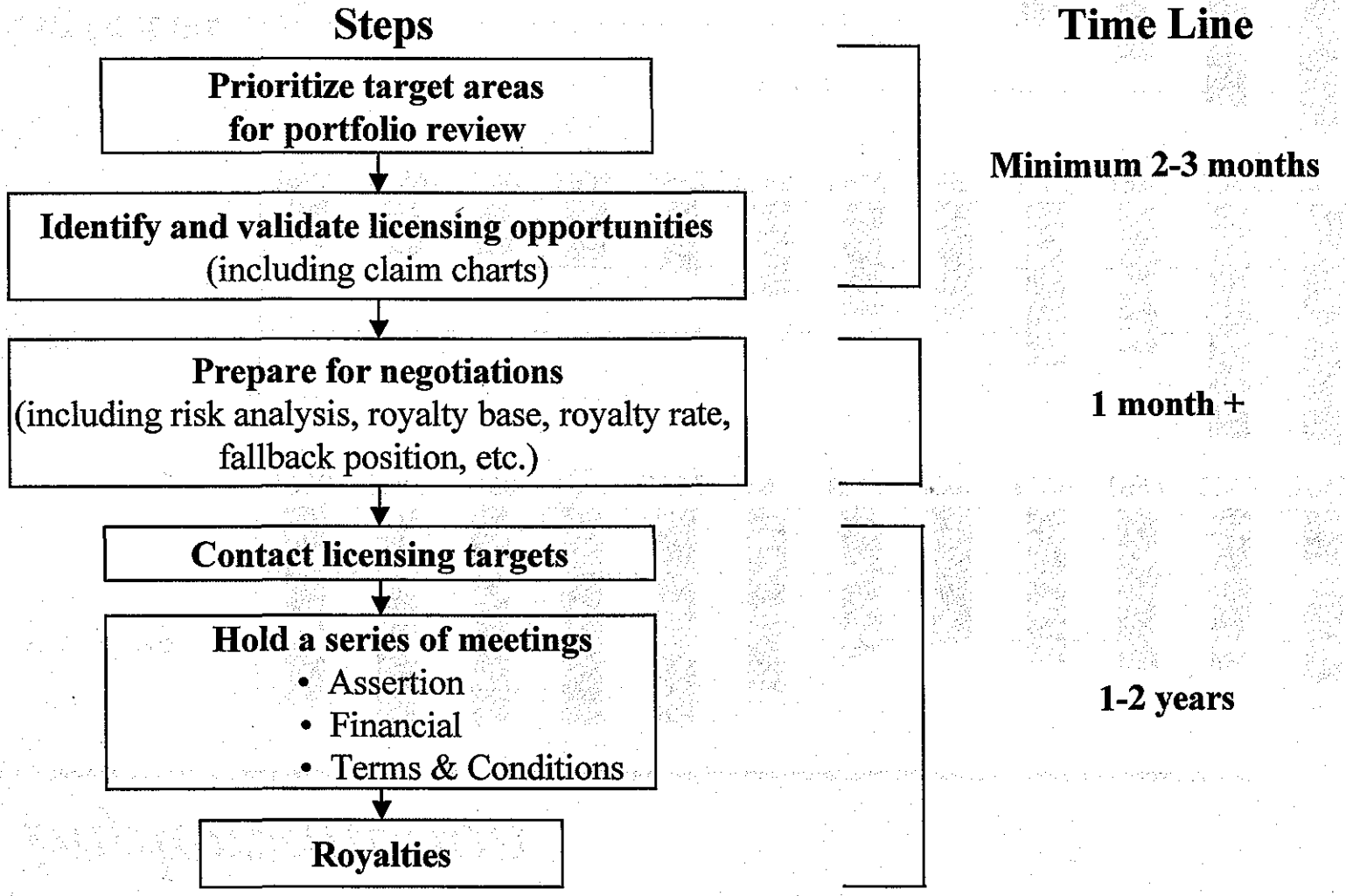
US Patents



Licensing Income



Licensing Process



Licensing as a Business
Key Benefits of IP Outsourcing

Dimension	General	Specific
Revenue	Experience, contacts, reputation	Expertise in non-core areas
Growth	Enhance access to revenue opportunities	Identify new markets
Speed/Time	Rapidly increase revenue	Potential to deliver substantial revenue quickly
Cost	Control overhead and improve resource efficiencies	Success-based compensation

Licensing as a Business
Risk Management in Outsourcing

- The client should control:
  - Licensing terms
  - Litigation
  - Press releases
- Trial candidates with minimal impact on core licensing:
  - Non-core patents
  - Patents from abandoned businesses or projects
  - Industries with minimum overlap with core licensing
- Performance metrics and success-based compensation

Licensing as a Business
Summary and Conclusion

- Licensing is a **Strategy**, not an event
- Royalty revenues are **Pure Profit**
- Portfolio quality is the key
- Extend your capabilities with outside help

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