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 is 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 a member of the Editorial Board and a contributor to *The Licensing Journal.*

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 Director of TeraStore, Inc., an early stage high tech company.

01/00

LICENSING AS A BUSINESS

Emmett J. Murtha
President & CEO
Fairfield Resources *International*



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Licensing as a Business

Agenda

- Trends in Intellectual Property
- What constitutes value?
- Common myths
- Alternatives to licensing
- IP management styles
- Royalty benchmarks
- Case study: Longhorn Technology
- Case study: IBM Corporation
- Lessons learned
- Expanding your licensing opportunities
  - Non-core licensing
  - Outsourcing
  - Risk management

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Licensing as a Business

Additional Considerations:

- Practical aspects of launching a program
- What makes a licensor/licensee attractive?
- How can an entrepreneurial R&D-focused venture capitalize on licensing?
- How can the Internet facilitate licensing?

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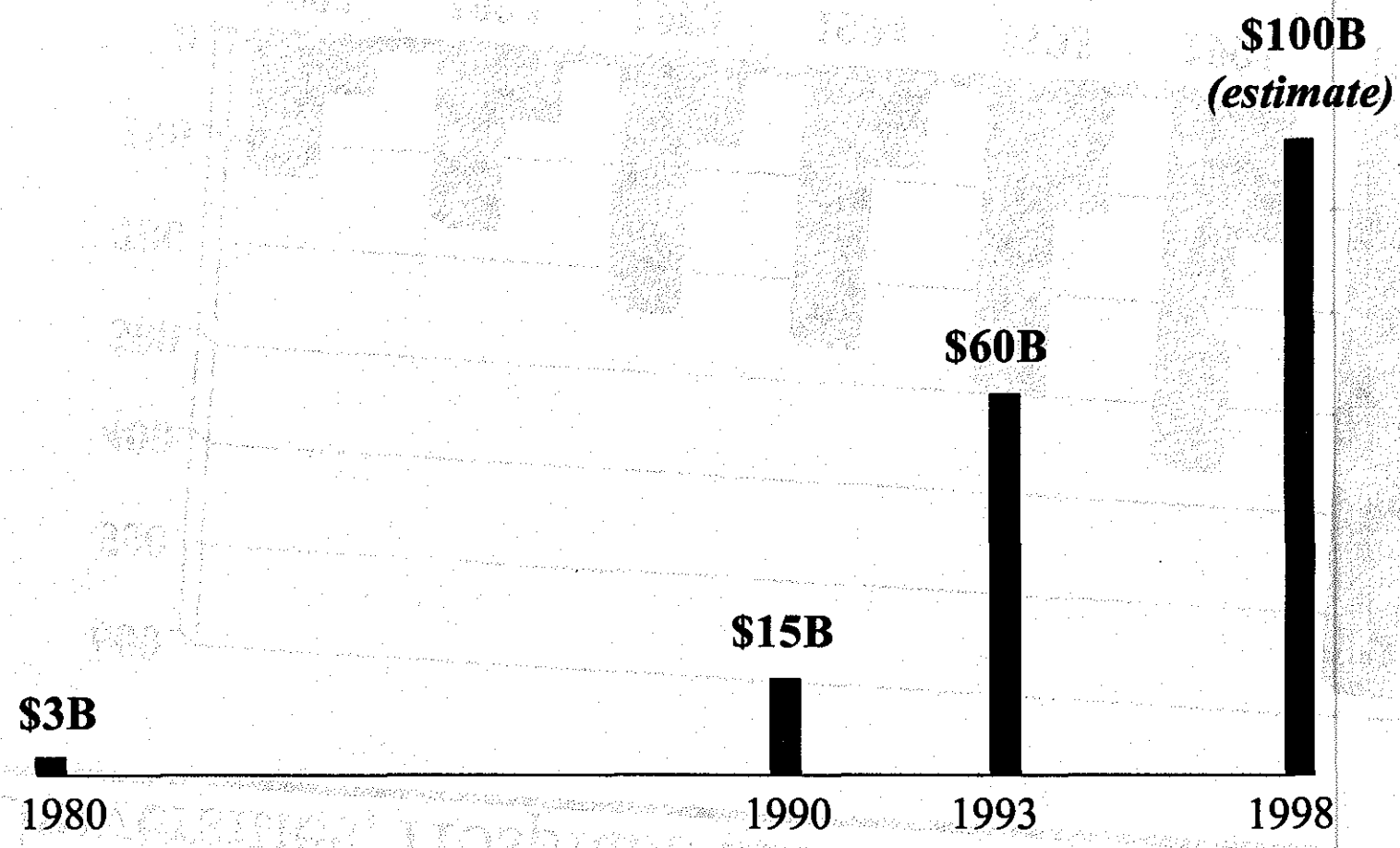
Trends in Intellectual Property

US Patents Issued for Top 10 Companies

Rank	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1	Toshiba 957	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
2	Hitachi 935	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
3	Canon 923	Hitachi 927	Mitsubishi 957	Canon 1,038	Hitachi 976	Motorola 1,012	Motorola 1,064	NEC 1,095	NEC 1,639	Canon 1,795
4	Mitsubishi 899	Kodak 863	Hitachi 951	Kodak 1,007	GE 970	NEC 1,005	NEC 1,043	Motorola 1,058	Motorola 1,542	Samsung 1,545
5	GE 810	Canon 823	GE 937	GE 932	Mitsubishi 970	Mitsubishi 973	Hitachi 963	Fujitsu 903	Sony 1,445	Sony 1,409
6	Fuji 784	GE 809	IBM 842	Mitsubishi 926	Toshiba 968	Toshiba 969	Mitsubishi 934	Hitachi 903	Samsung 1,308	Toshiba 1,200
7	Kodak 736	Fuji 731	Kodak 775	Hitachi 912	NEC 897	Hitachi 910	Toshiba 914	Mitsubishi 892	Toshiba 1,237	Fujitsu 1,193
8	US Philips 666	IBM 679	Motorola 658	Motorola 729	Kodak 888	Matsushita 854	Fujitsu 869	Toshiba 862	Fujitsu 1,232	Motorola 1,192
9	IBM 644	US Philips 650	Fuji 640	Matsushita 712	Motorola 837	Kodak 772	Sony 855	Sony 859	Kodak 1,145	Lucent 1,153
10	Siemens 511	Motorola 613	Matsushita 608	Fuji 632	Matsushita 771	GE 758	Matsushita 841	Kodak 795	Mitsubishi 1,092	Mitsubishi 1,054
US Total	90,364	96,513	97,444	98,343	101,676	101,419	109,646	111,984	147,521	142,801

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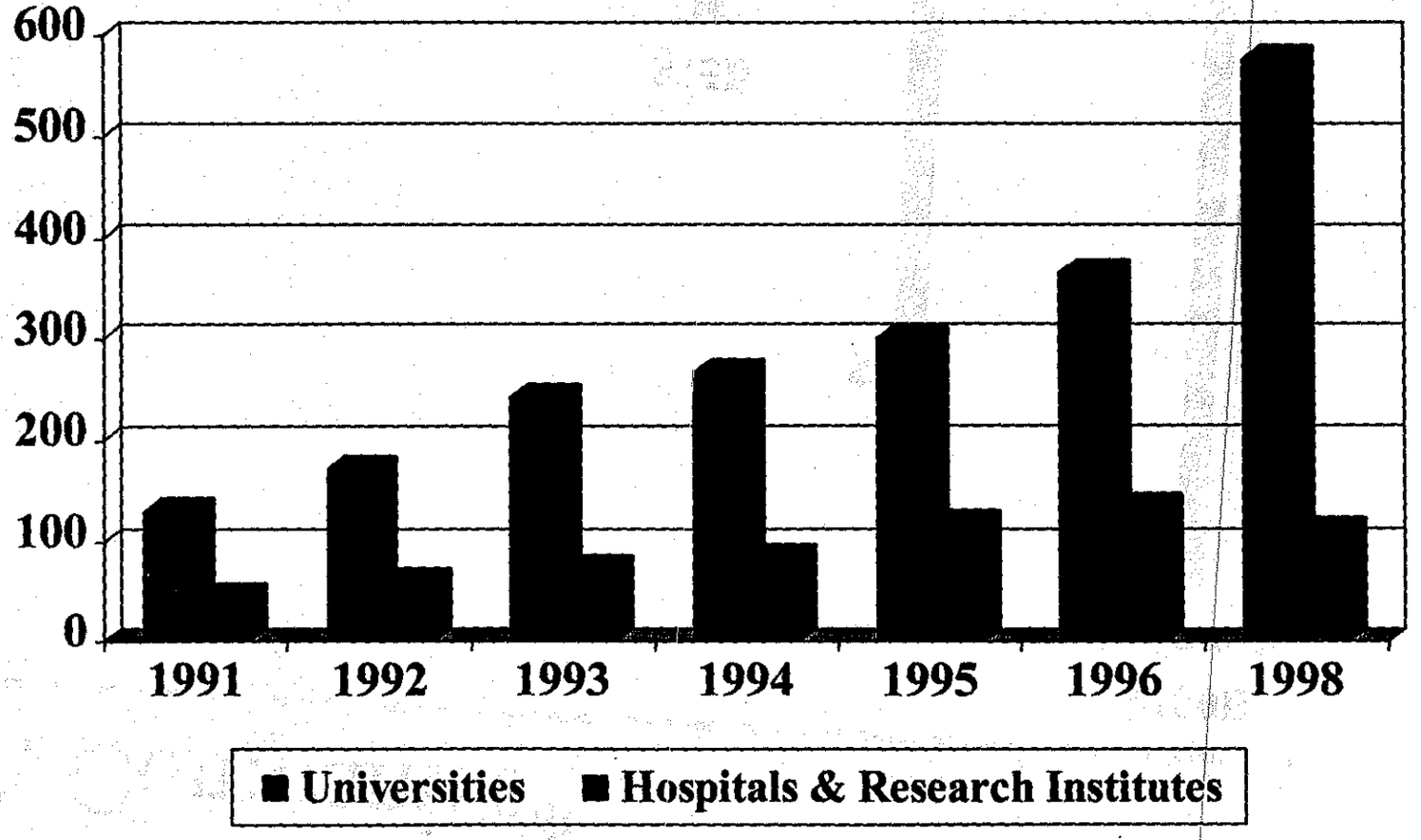
Patent Licensing Revenues for U.S. Companies*



*Based on *The Economist, The Patent Wars, and SmartPatents*

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



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Licensing as a Business

Is intellectual property always valuable? (or just expensive?)

- A patent is a right granted by a national government to **stop** someone from doing something
- A patent is valuable **only** if someone wants to use the patented invention

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Licensing as a Business

What are the alternatives to licensing your patents?

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

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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.
Licensing/R&D is a necessary cost of doing business.	Licensing/R&D can be managed as a profit center. Royalty income goes straight to the bottom line.
IP with licensing value covers only core business areas.	Both IBM and Lucent have non-core licensing programs that are highly successful.
One cannot do much about outgoing royalty payments.	Effective IP strategies can ensure a significant reduction in royalty payments.
Patents are only for protecting existing markets.	Patents often play a central role in developing new markets through selective licensing, exclusion or alliance.

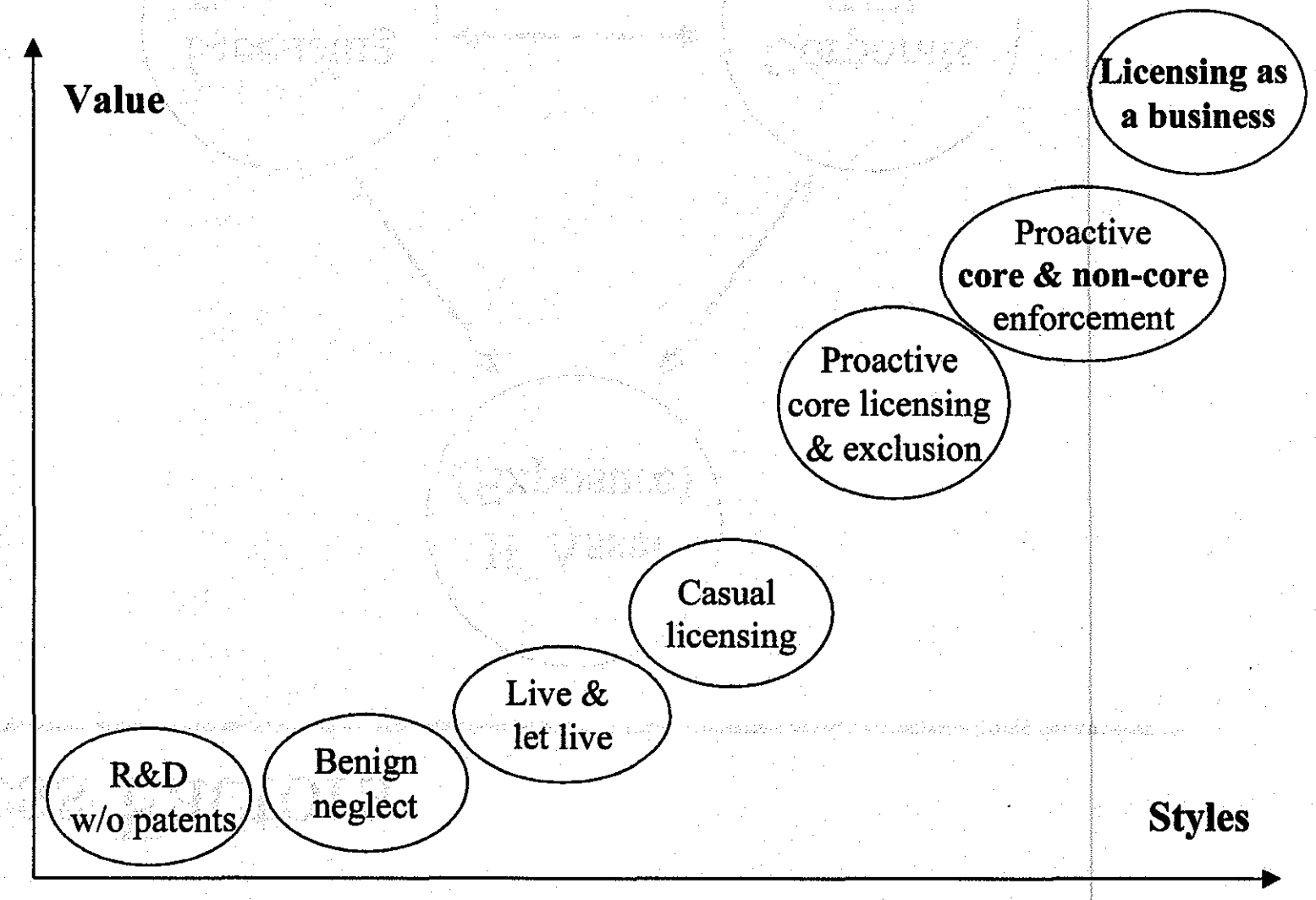
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Intellectual Property Profile of Typical Fortune 100 High-Tech Companies

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 20%
No. of patents per $10MM R&D	<1	3 to 6

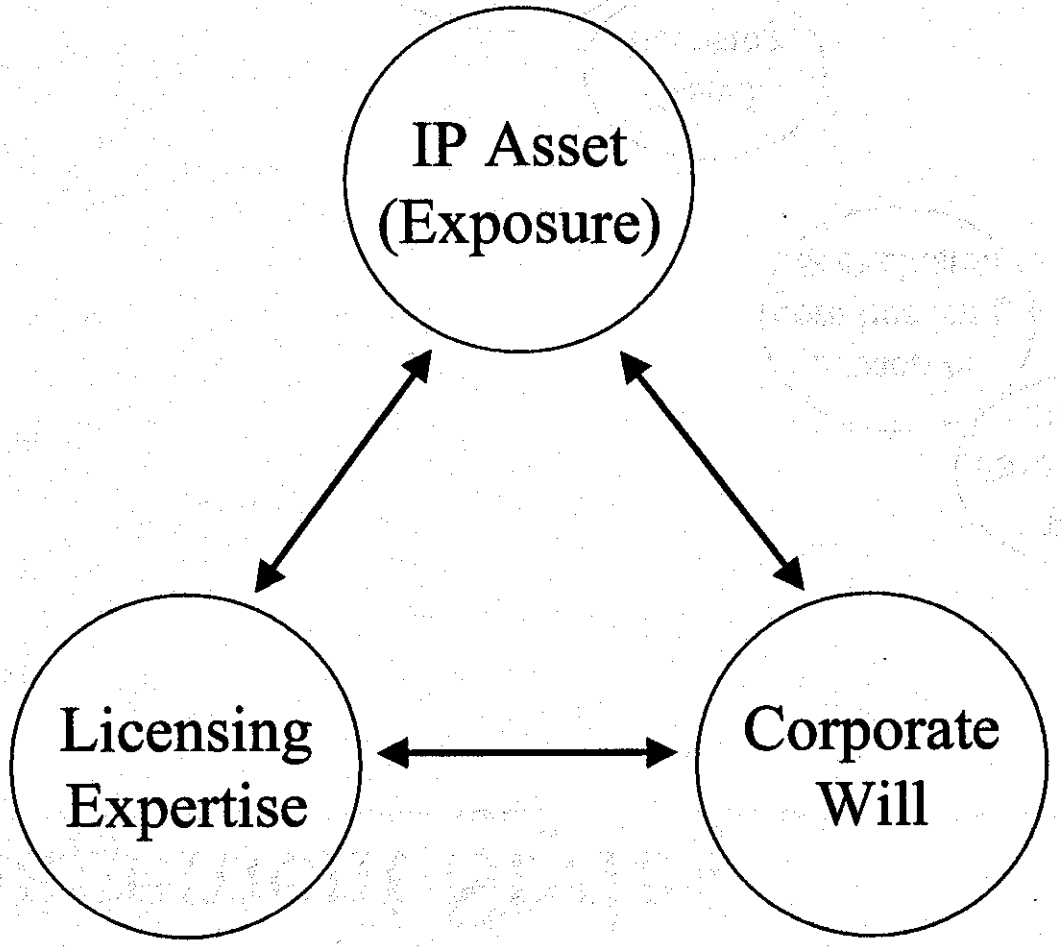
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IP Management Styles



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Success Factors



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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
  - Managing IP as a business unit and generating hundreds of millions of dollars annually in patent licensing royalties
- General Electric/RCA
  - Ran a highly successful licensing program with significant royalty revenues
- IBM
  - Generating $1.3 billion annually in royalty income, which grew over 7600% since 1987

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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

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Licensing as a Business

Longhorn Technology (A Hypothetical Licensor)

- Longhorn Technology has thousands of patents
- They get over 500 new U.S. patents a year
- Some Longhorn patents are not available for license
  - particularly new ones, which protect future technologies or products
- However, Longhorn has made licensing a profitable business
  - licensing its outstanding collection of patents covering its main business to its competitors
    - » for hundred of millions of dollars annually

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Licensing as a Business

Longhorn Technology

- Could they not do better by **refusing to license** their competitors?

Probably not, for the following reasons:

- It's important that certain technologies be "proven" by widespread use
- Customers like to have more than a single source
  - » Particularly for commodity products like computer memory chips, motor oil, even personal computers!
- Litigating to enforce a patent monopoly is very expensive
  - » It is often referred to as "the sport of kings"

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Licensing as a Business

IBM Corporation

Overview of IBM

- A major multinational corporation
- Operates in over 160 countries
- Annual revenues of $82 billion
- Active licensing program since mid-sixties

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Licensing as a Business

IBM's IP Assets

- Approximately 33,000 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.

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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

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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

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Licensing as a Business

Practices reviewed periodically

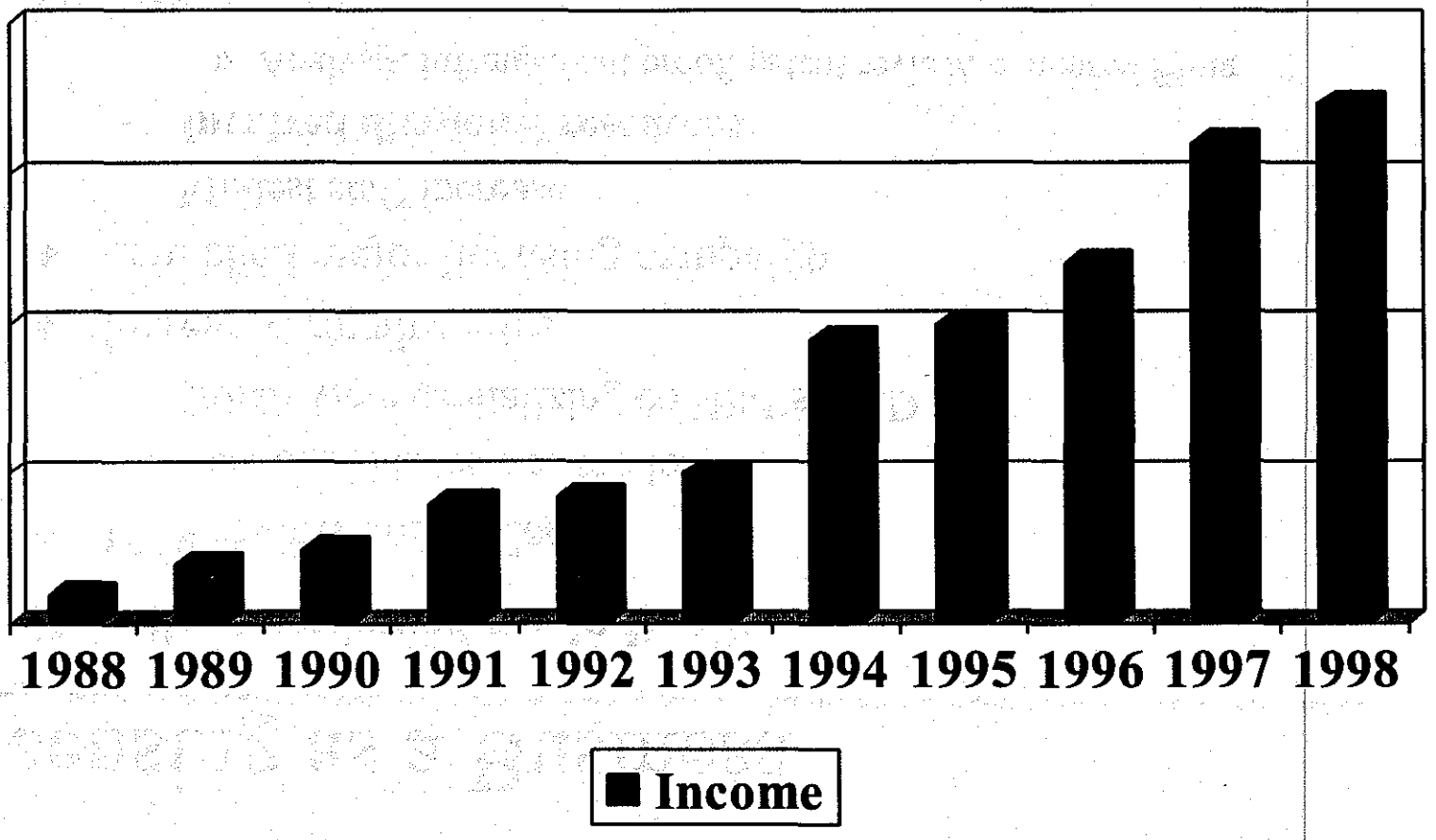
- 1988 review concluded:
  - Rate of 1% sales was too low
  - Others were capitalizing on IBM's R&D
- Increased royalty rates
- Launched major licensing campaign
  - Modest staff increase
  - **Involved divisional resources**
    - » Analysis, infringement proof, patent review, increased filing

Results:

- Revenue grew by 7600% since 1987
  - **All income credited to divisions**
- Minimal litigation

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IBM's Licensing Income



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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
  - Apply patents/technology outside industry
    - » Laser medical/dental
    - » Polymer chemistry
    - » Electronic entertainment
    - » Medical diagnostics and instruments
- Trademark licensing
- Involve outside consultants and engineers

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Licensing as a Business

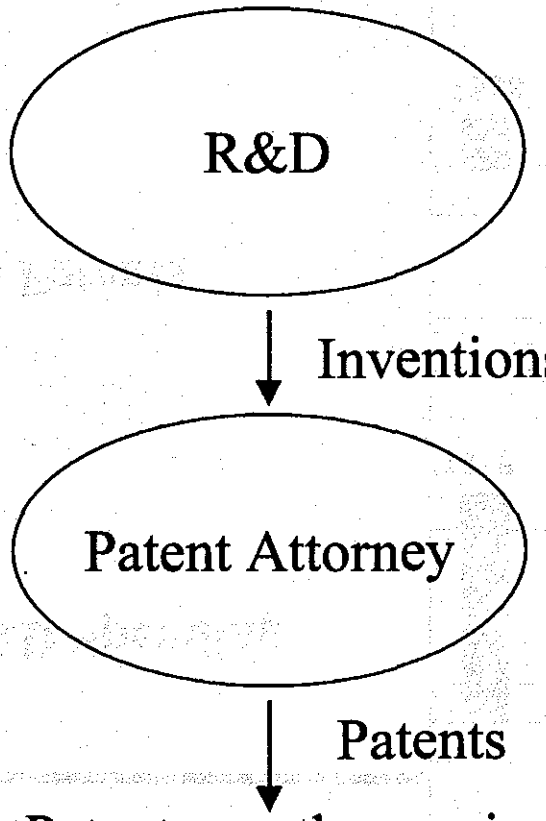
Lessons Learned at IBM

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

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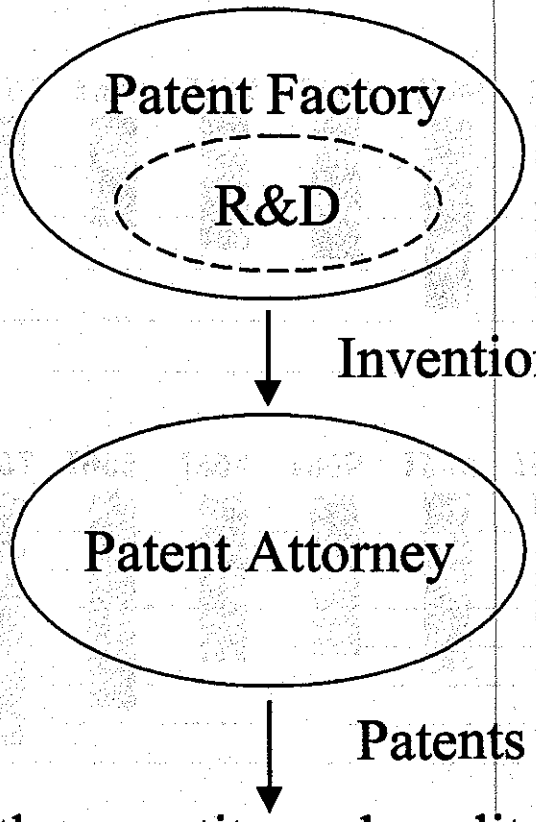
Patent Factory

Traditional Approach



Patents are the passive result of R&D!

Improved Approach



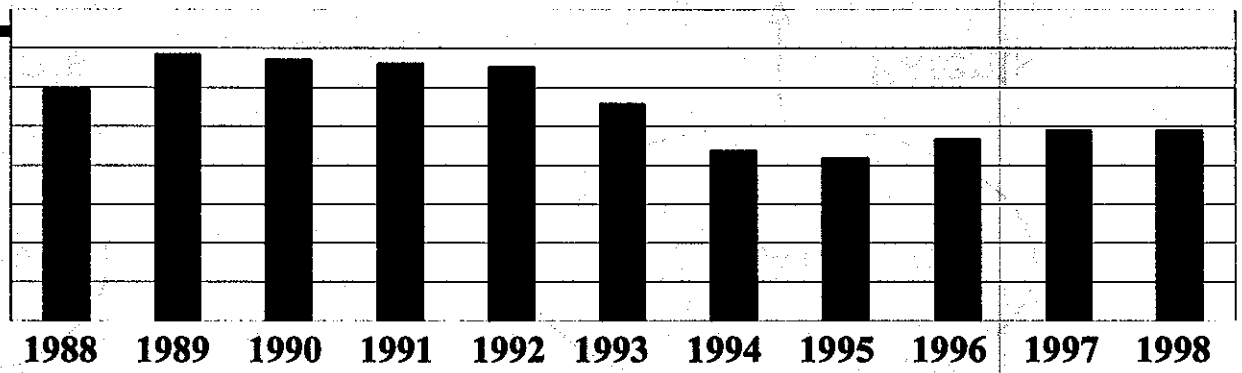
Both the quantity and quality of patents are controlled by the patent factory!

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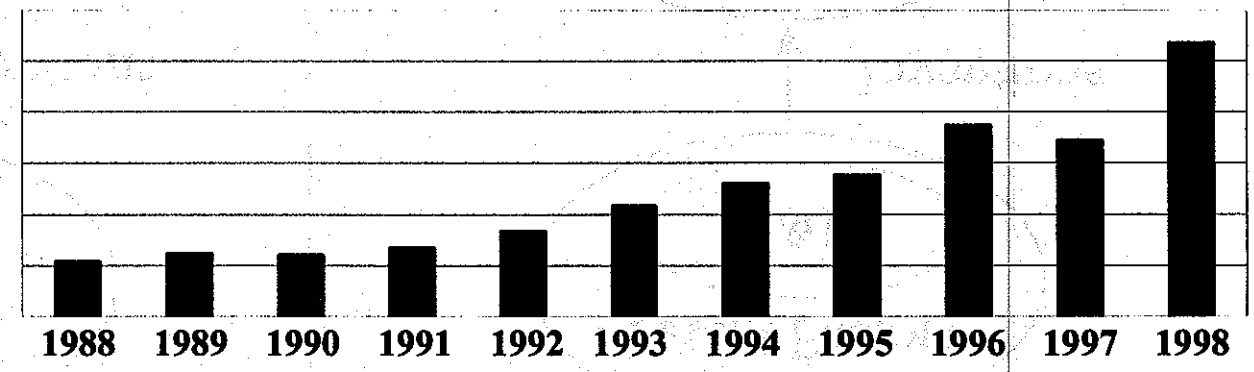
Patent Factory

IBM Implementation

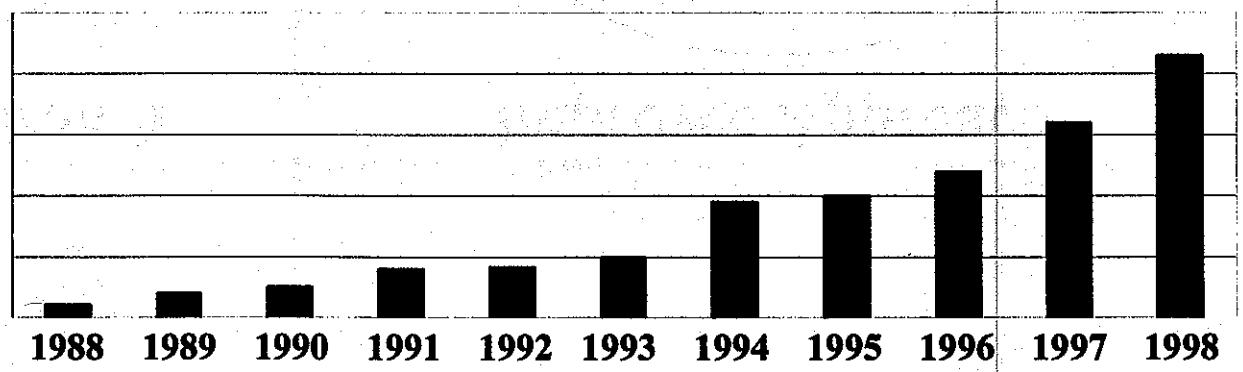
R&D Spending



US Patents



Licensing Income



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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

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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

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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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