



CARL DUISBERG
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WORLD INTELLECTUAL
PROPERTY ORGANIZATION

WORKSHOP ON INNOVATION SUPPORT SERVICES AND THEIR MANAGEMENT

organized by
the World Intellectual Property Organization (WIPO)
and
the Carl Duisberg Gesellschaft (CDG)
in cooperation with
the German Patent and Trademark Office (GPTO),
the Aachen Corporation for Innovation and Technology Transfer (AGIT)
the European Patent Office (EPO)

Munich, Nuremberg, Aachen (Germany), June 12 to 22, 2001

THE ROLE OF INTELLECTUAL PROPERTY RIGHTS (IPRS) IN THE ASSESSMENT
OF INVENTIONS, RESEARCH RESULTS AND INNOVATION PROJECTS

Document prepared by Dr. Karl Rackette, Intellectual Property Attorney, Freiburg

The Role of Intellectual Property Rights in the Assessment of Inventions, Research Results and Innovation Projects

Karl Rackette, Freiburg, Germany
info@rackette.de

Aachen, June 19, 2001

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Intellectual Property

„Intellectual Property has been transformed from a sleepy area of law and business to one of the driving engines of a high-technology economy“

Sabra Chartrand, „Patents“, New York Times, 5 April 1999

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Change in Sources and Nature of Value

- Land and natural resources
- Industrial era
- Battles for control of markets and raw materials
- Knowledge-based economy
- Ideas command enormous value
- Battles over exclusive rights to new ideas and inventions

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Old and New Fears

- Competitors might outproduce or outmarket
- Competitors may get patents on technology that is essential in order to be in business

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Exploding Patent Statistics

Increasing number of US-Patents granted

70.000 in 1983
100.000 in 1990
155.000 in 1998

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Exploding Patent Statistics

- First filings worldwide: 650.000 each year
- Increasing number of Applications for Patents

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European Patent

- The following 20 States were in 2001 members of the European Patent Organisation:

Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Ellas, Ireland, Italy, Liechtenstein, Luxembourg, Monaco, Portugal, The Netherlands, Spain, Sweden, Switzerland, The United Kingdom, Turkey.

The following States agreed with the EPO to allow extension of European patents to their territory:

Albania, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Romania and Slovenia

Together these States build a market of more than 450 million people.

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Patent Documents

- At the end of 1996, the documentation collection of the EPO comprised 24 500 000 patent documents and 2 500 000 technical or scientific articles. This means 1 100 000 new documents added to the collection - i.e. an increase of 4% - including 660 000 patent documents, 106 500 technical and scientific articles and 327 000 English-language abstracts of patents from Japan and the former Soviet Union

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Patents in Force 1997

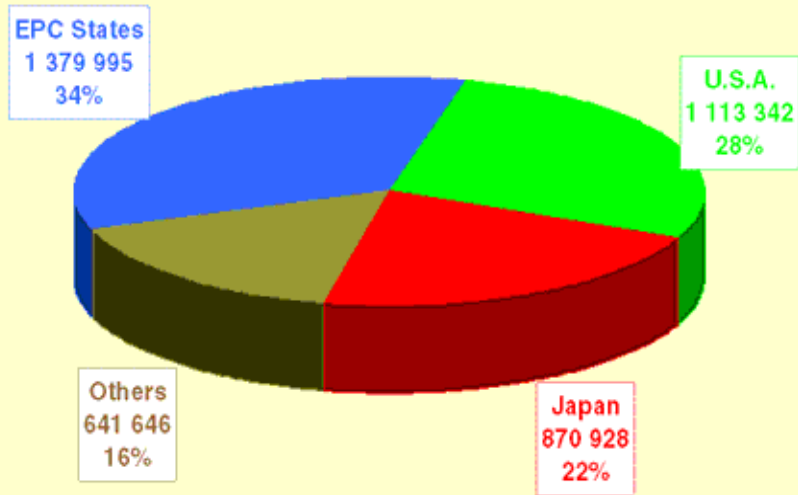
- EPC States : 1 380 000 34%
- USA: 1 113 000 28%
- Japan: 871 000 22%
- Others: 642 000 16%

Patent rights throughout the world.

- At the end of the year 1995, a total of 3.84 million patents were in force.
- At the end of the year 1996, a total of 4.11 million patents were in force.
- At the end of the year 1997, a total of about 4 million patents was in force.
- The Contracting States of the European Patent Convention, the JPO and the USPTO, respectively, cover about 81% of the total patents world-wide.

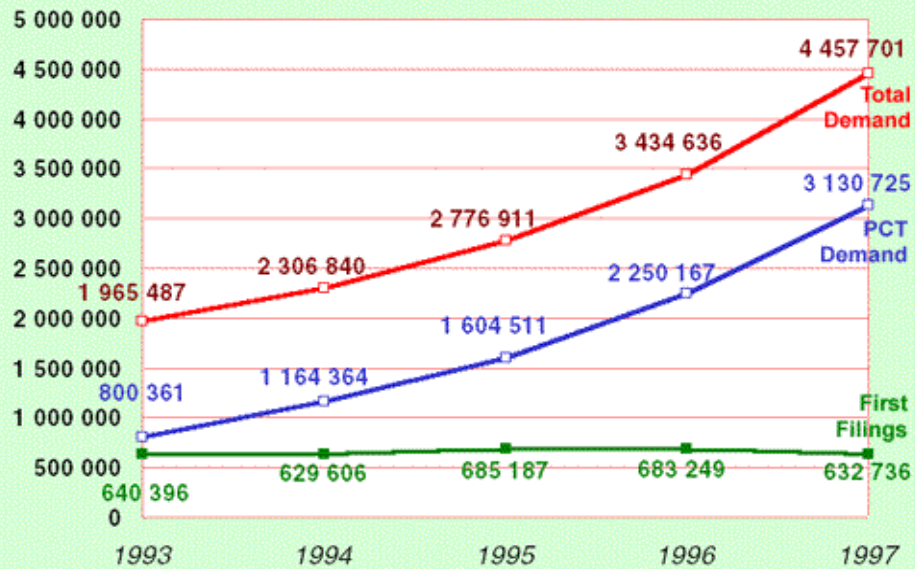
GRAPH 1.1

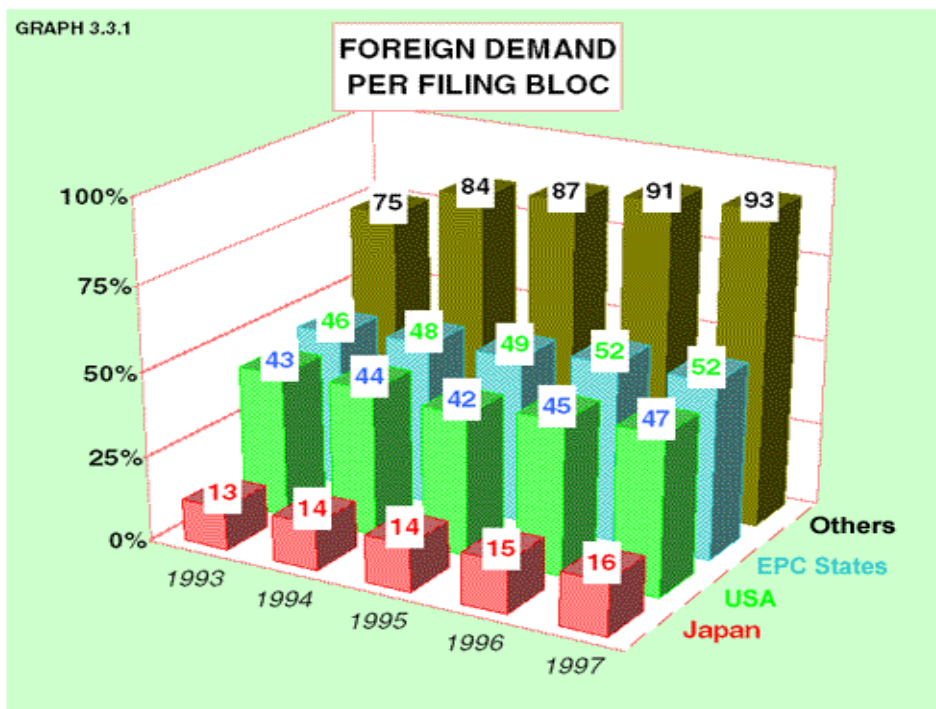
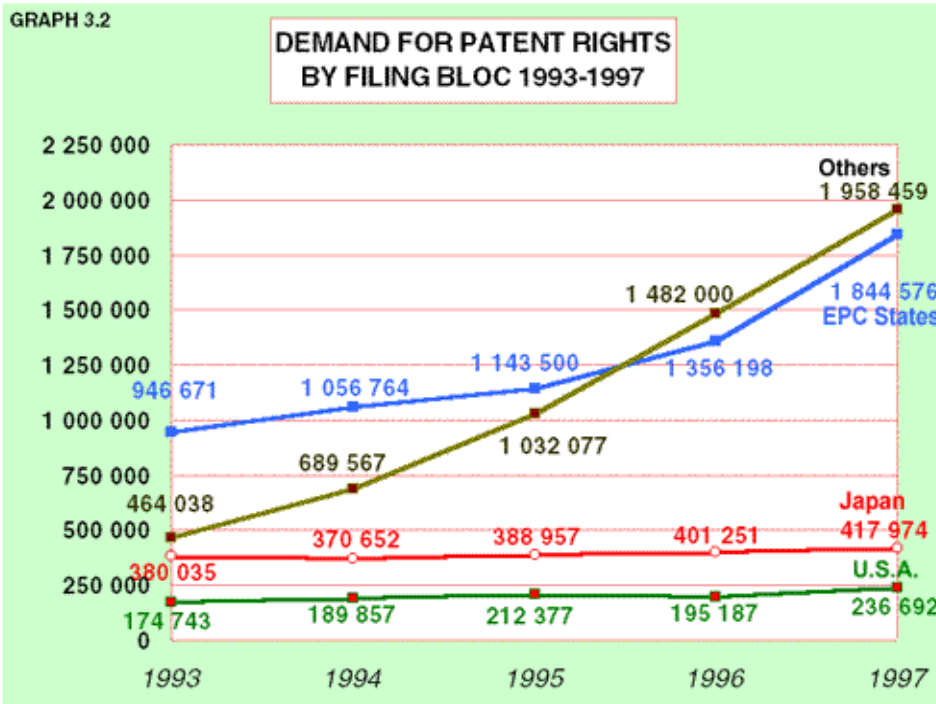
PATENTS IN FORCE IN 1997

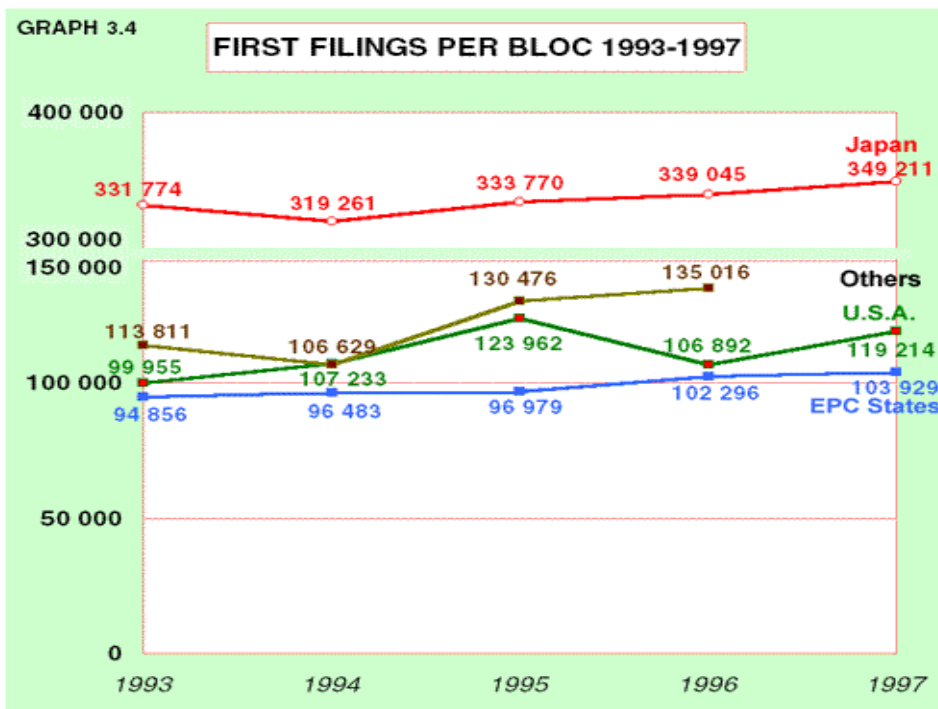
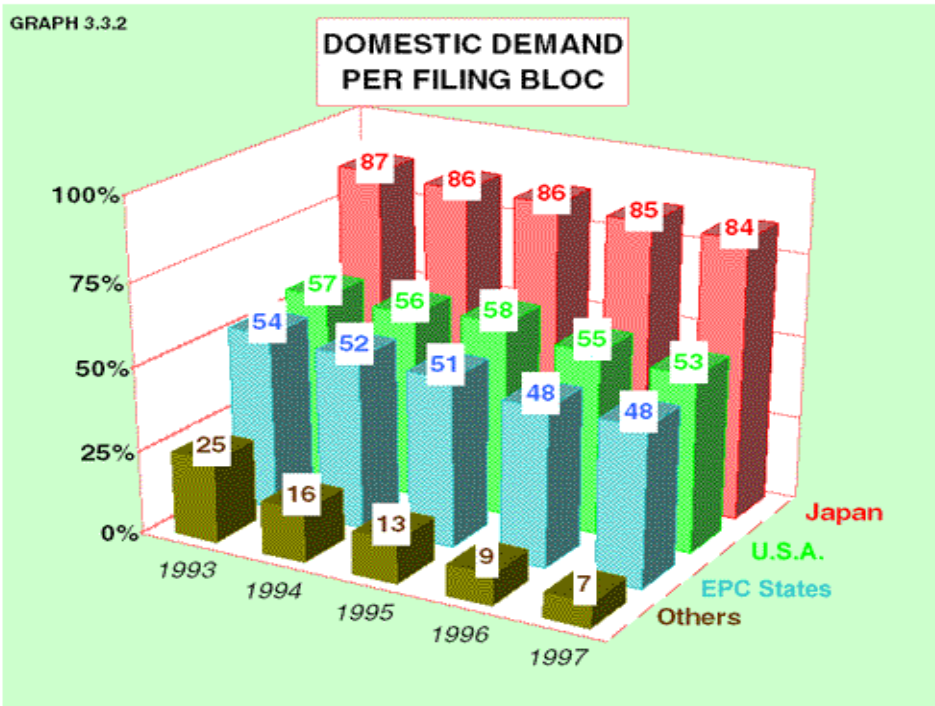


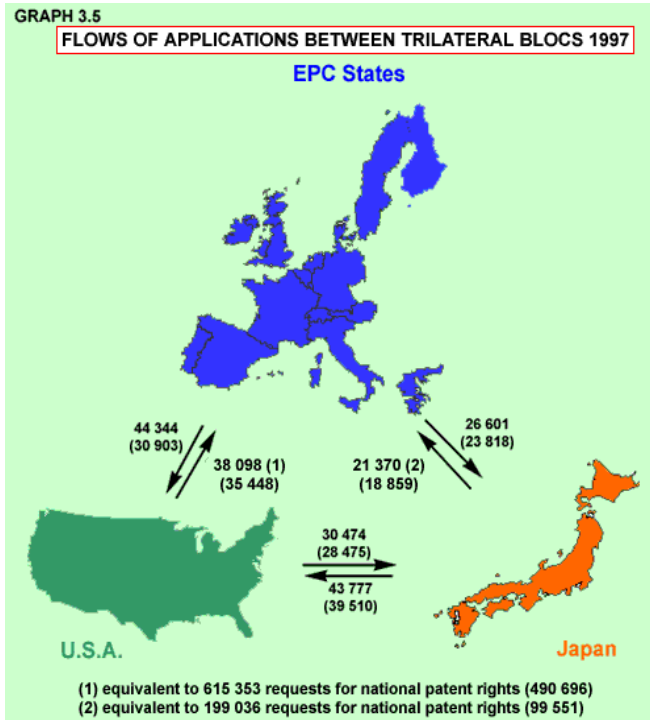
GRAPH 3.1

**DEMAND FOR PATENT RIGHTS
WORLDWIDE 1993-1997**



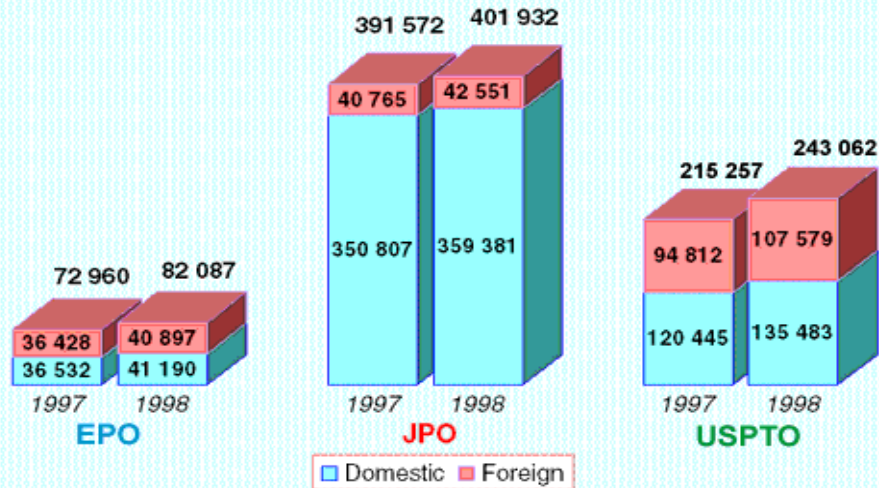


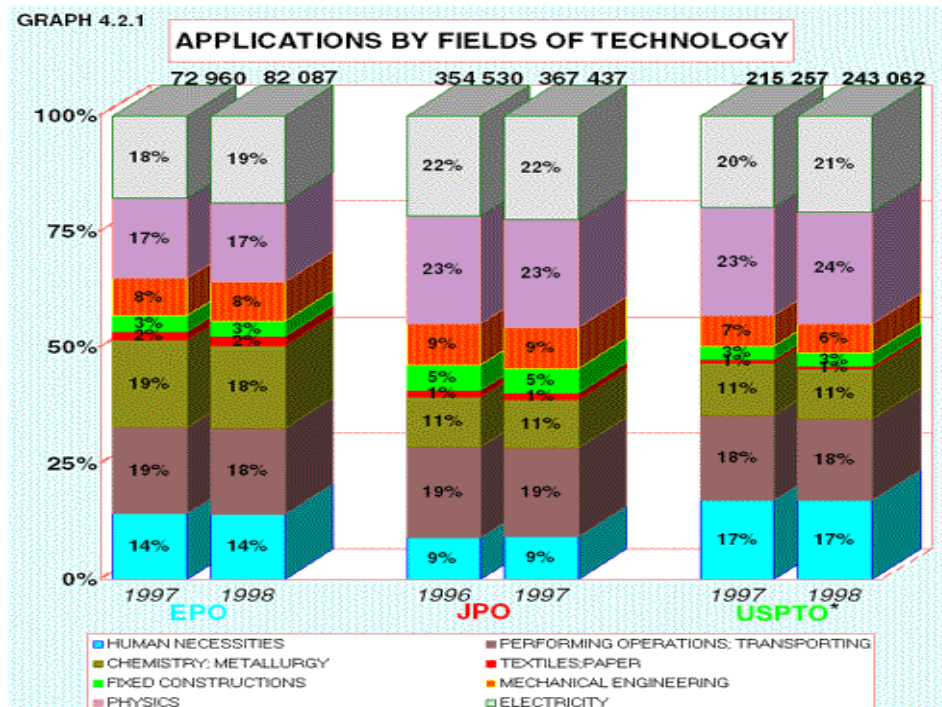
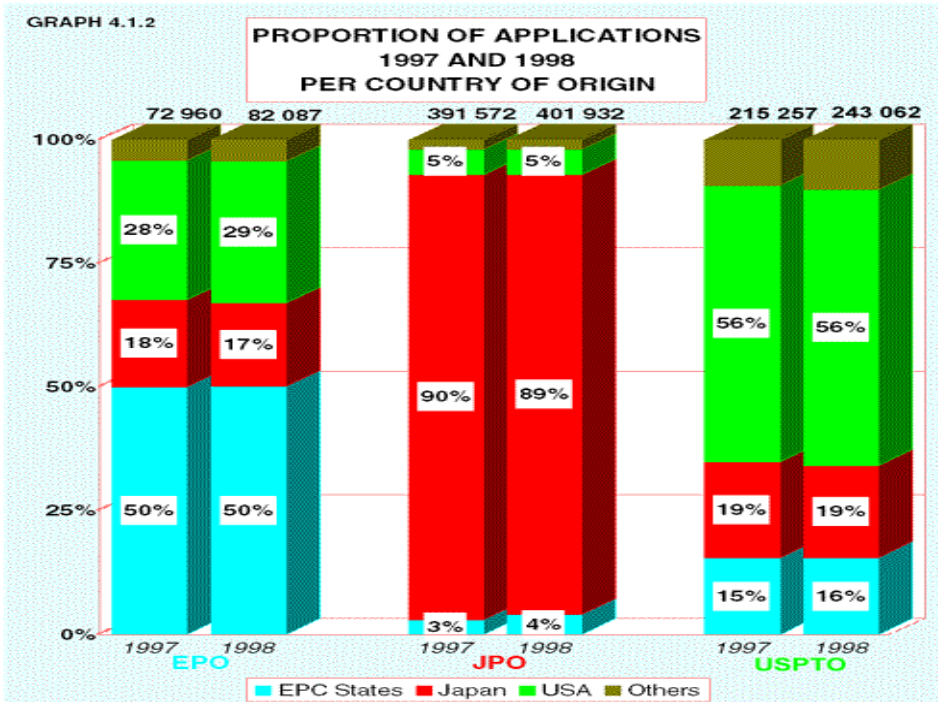




GRAPH 4.1.1

TOTAL, DOMESTIC, FOREIGN FILINGS 1997 AND 1998 WITH TRILATERAL OFFICES

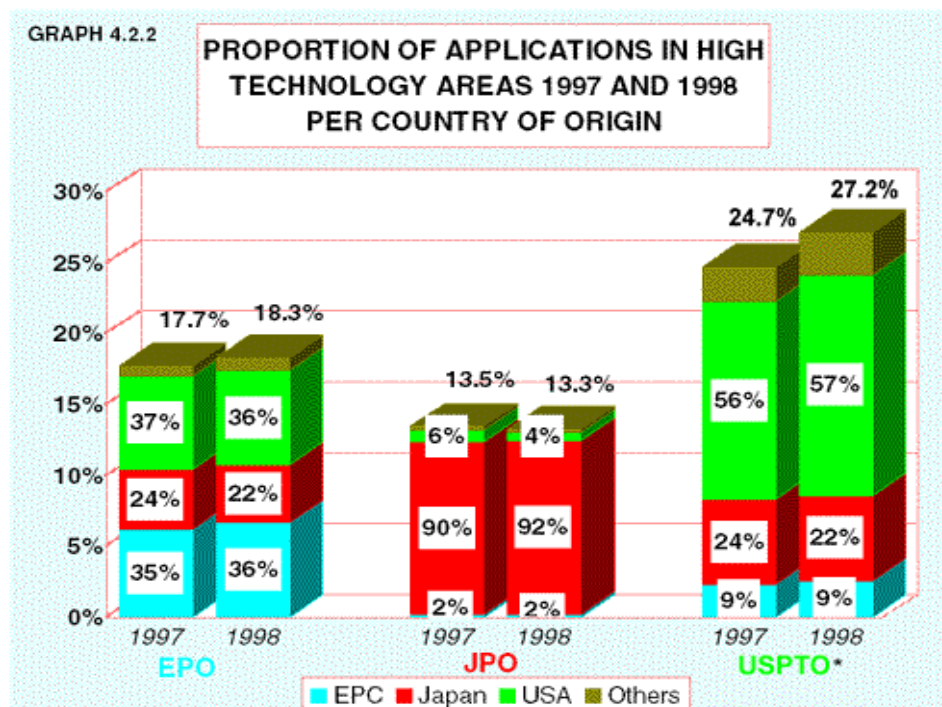




High Technology

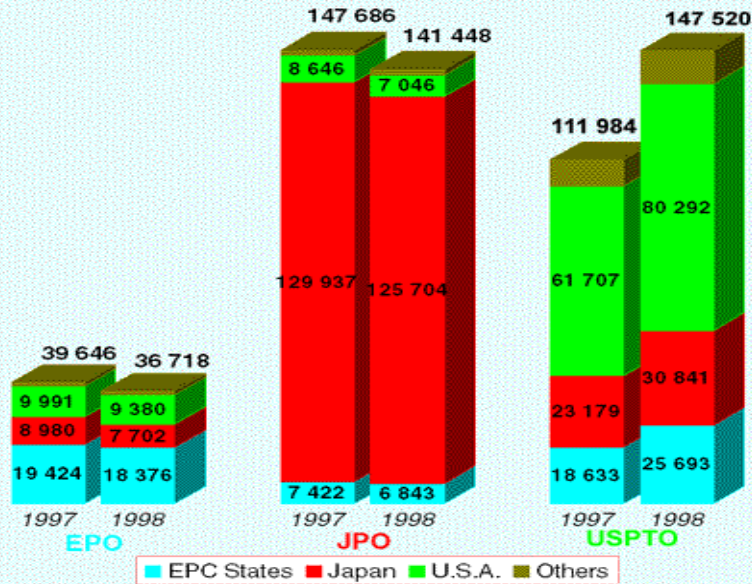
- The following technical fields have been defined as high technology:
- Computer and automated business equipment; micro-organism and genetic engineering; aviation; communications technology; semi-conductors; lasers.

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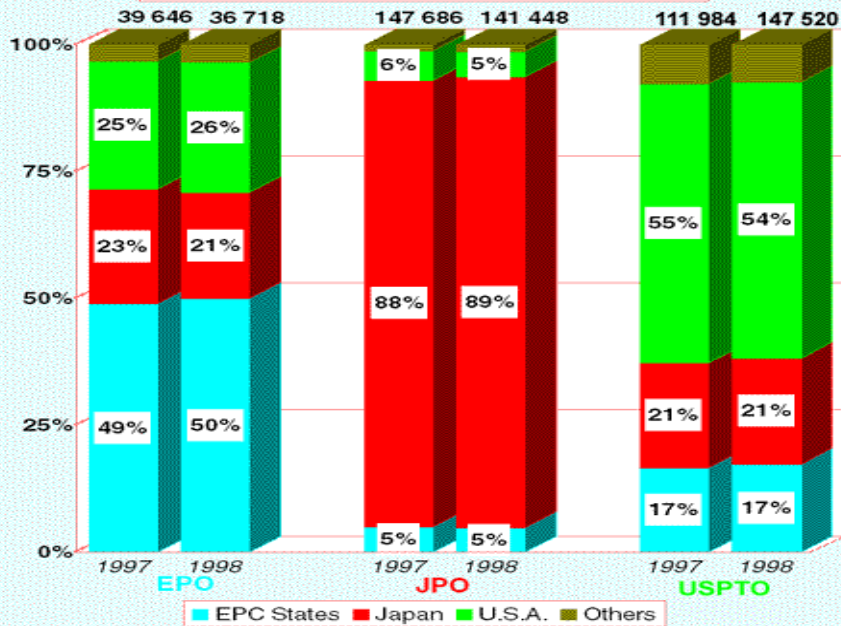
GRAPH 4.3.1

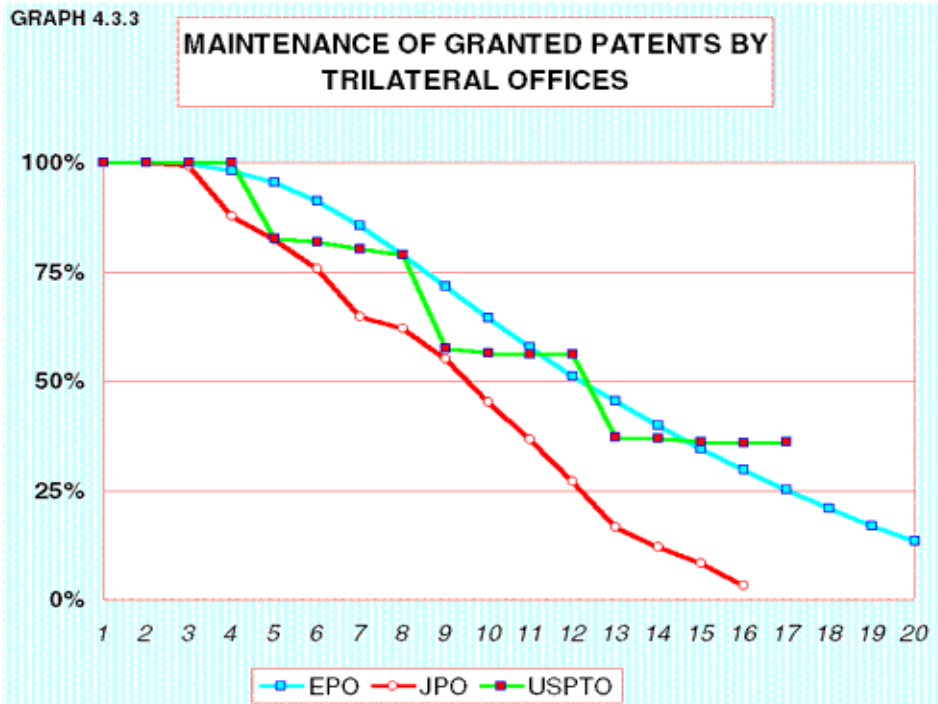
**PATENTS GRANTED BY THE TRILATERAL OFFICES
1997 AND 1998**



GRAPH 4.3.2

**PROPORTION OF GRANTED PATENTS
1997 AND 1998 PER COUNTRY OF ORIGIN**





Value of Patents

- Abraham Lincoln believed that giving such rights to inventors adds the "**fuel of incentive to the fire of genius.**" Various analyses have shown that patents are an essential incentive for most inventors to push the envelope of **creativity** and bring their ideas to fruition for the benefit of the public. Patents reward **disclosure** rather than secrecy. They encourage investment in research and development as well as production and marketing of **new products**.

Value of a Patent

- Ultimately, it is the claims which will dictate the value of the patent
- Even if the invention is described, if it is not covered by the claims, there are no patent rights
- The attorney, however, will ultimately attempt to retain in the application the broadest claims since the eventual commercial potential will be based on the breadth of the invention

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Value of Patents

- Patents are an effective means of **deriving economic value from research** advancements and for enhancing support of research activity.
- Patents are often the best means of developing and **disseminating** a technology for the widest good
- Experience over the last several years indicates that patents are typically **essential as a basis for starting companies** based on university inventions and discoveries
- Patents are an ideal means of constructing effective **collaboration** with industry

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What Role Do Patents Play In Everyday Life?

- Patented inventions have, in fact, **pervaded every aspect of human life**, from
- electric lighting (patents held by Edison and Swan) and
- plastic (patents held by Baekeland), to ballpoint pens (patents held by Biro) and
- microprocessors (patents held by Intel, for example).

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Basic Idea Underlying the Patent System

All patent owners are obliged,

- in return **for patent protection**,
- to **publicly disclose information** on their invention in order **to enrich the total body of technical knowledge** in the world.

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Basic Idea Underlying the Patent System

- The ever-increasing body of published patent publications promotes **further creativity** and **innovation** in others.
- Patents provide not only protection for the owner but valuable **information** and **inspiration** for **future generations** of researchers and inventors.

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Use of Patents by Companies

- As competitive **weapons** to capture and defend markets
- To outflank rivals
- Gain a proprietary market advantage
- Gain an exclusive hold over a new technology
- To increase revenue
- Deriving revenues from patent licensing
- Valuable and fungible asset
- Important factor in their success
- Patent strategy became a core competency

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Benefits of Licensing

- A primary goal of licensing is to assure that technology will be brought to the marketplace and benefit the public
- Licensing activity often enhances the interaction between company researchers and a University's faculty and staff.
- Licensing patentable inventions is tangible evidence of the technology transfer efforts that are expected today by an increasing number of funding agencies.

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Types of Licenses

- Exclusive
- Non-exclusive

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University Research

- Confidentiality Agreements
- Inventions must not be given, inadvertently, to several entities due to mixed funding of projects and overlapping intellectual property rights. This can lead to very expensive litigation, loss of research funding and the payment of substantial damages.

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Technology Marketing

- identify and contact appropriate companies to commercialize the technology in return for royalties, license fees and/or research funding.
- maintains contact with literally hundreds of companies that have potential commercial interest in new technologies.
- negotiate an appropriate agreement which may, in addition to license fees and royalties, include additional research support for the inventor's laboratory.

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Cornell as anExample

- Cornell Research Foundation encourages individuals to create new business ventures involving Cornell patentable technology and works with faculty and staff as well as non-Cornell individuals in the early stages of such ventures.

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Cornell Research Foundation, Inc. Fiscal Year 2000 Statistics

Invention Disclosures

- Disclosures Received 177
- Disclosures Processed 248
- Dropped 81
- Filed 81
- Disclosure Backlog 280

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Cornell Research Foundation, Inc. Fiscal Year 2000 Statistics

U.S. Patents

- Applications Filed 167
- Applications Pending 495
- Patents Issued 68
- Patents in Force 416

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Cornell Research Foundation, Inc. Fiscal Year 2000 Statistics

Foreign Patents

- Applications Filed 60
- Applications Pending 314
- Patents Issued 9
- Patents in Force 137

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Cornell Research Foundation, Inc. Fiscal Year 2000 Statistics

Licenses

- Licenses and Options Executed 83
- Total Equity Deals with Startups 22
- Active Licenses 808

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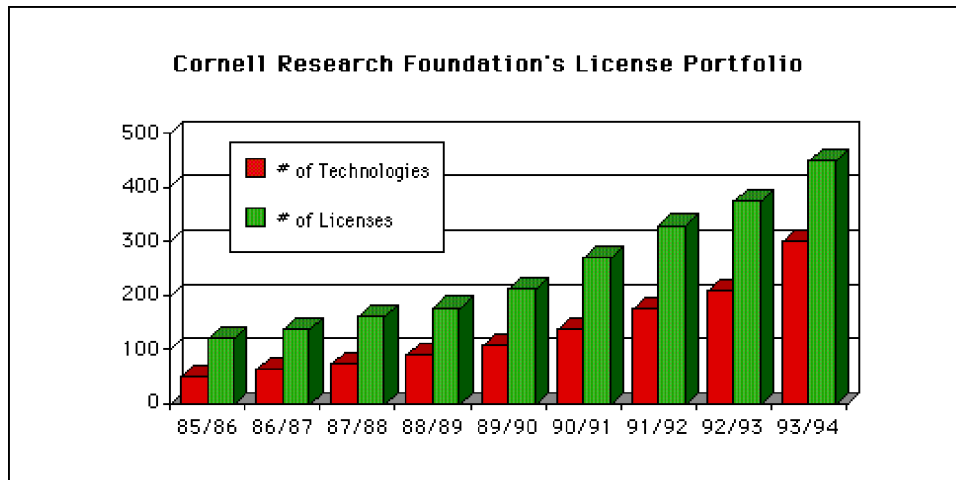
Cornell Research Foundation, Inc. Fiscal Year 2000 Statistics

License Income

- Gross Income US\$ 5,900,000
- Royalties Paid to Inventors US\$ 1,400,000
- Royalties Paid to Cornell Colleges US\$ 475,000
- Royalties Paid to the University US\$ 235,000

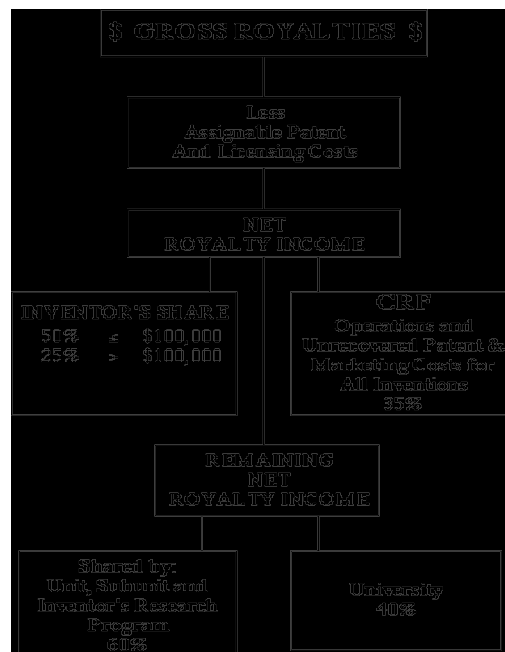
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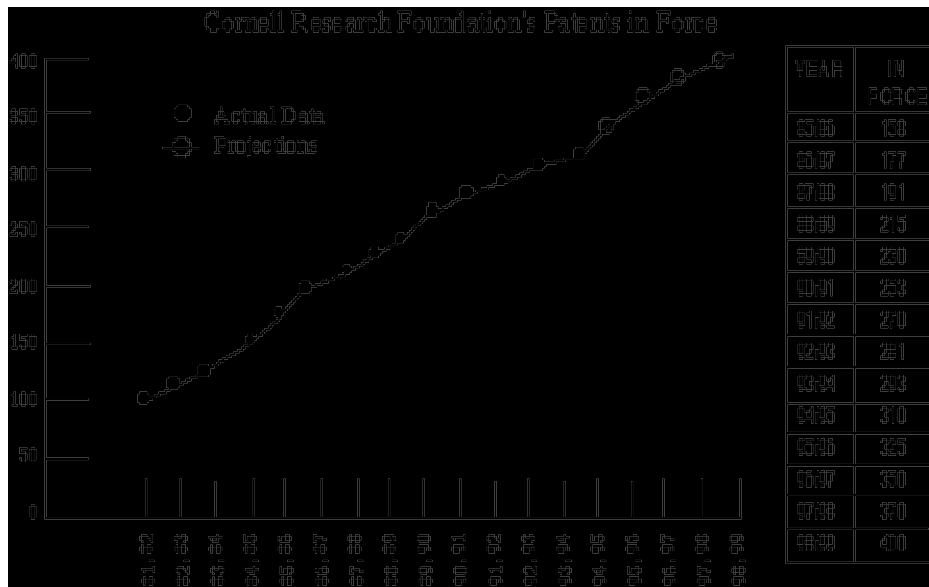
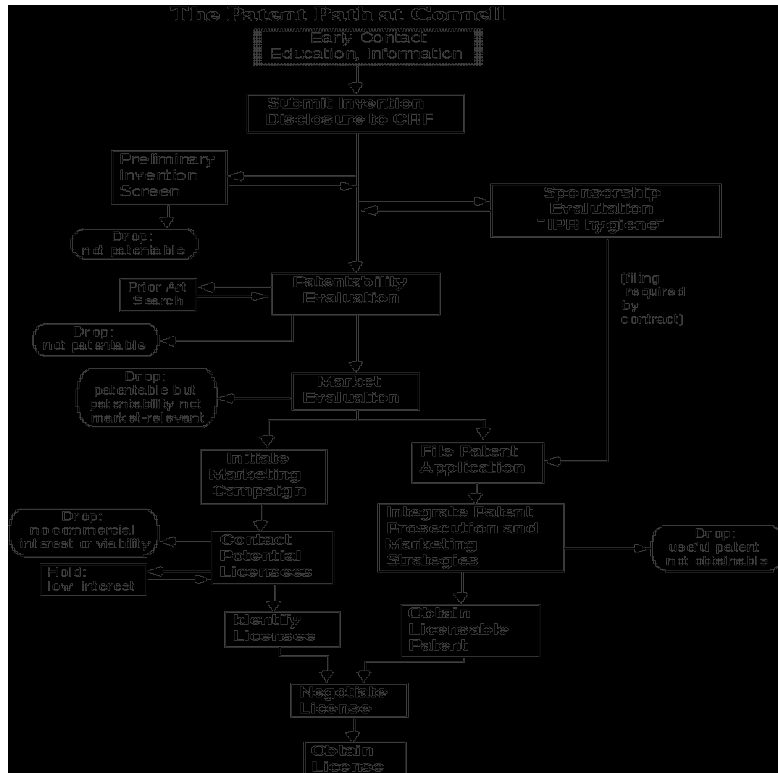
LICENSING AND COMMERCIAL DEVELOPMENT



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CORNELL PATENT POLICIES





THE END

Thank you
for your attention!



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