

- INTELLECTUAL PROPERTY RIGHTS (IPR)**
- PATENTS
 - COPYRIGHT
 - TRADEMARKS
 - INDUSTRIAL DESIGN
 - GEOGRAPHICAL INDICATIONS
 - LAY OUT DESIGN OF INTEGRATED CIRCUITS
 - PROTECTION OF UNDISCLOSED INFORMATION
 - PROTECTION OF NEW PLANT VARIETY

- What do we expect 2005 onwards?**
- Product patents (includes drugs, food items, GMO)
 - Software patents
 - Protection of new plant varieties
 - Geographical indications
 - Large scale opening up
 - More competition
 - More R&D services in India in the drug and agriculture sectors
 - Clinical Research Organization

What is Invention Under the Indian Patent Act

“Invention” means a new product or process involving an inventive step and capable of industrial application;

“inventive step” means a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both that makes the invention not obvious to a person skilled in the art;

“capable of industrial application”, in relation to an invention, means that the invention is capable of being made or used in an industry.

- New invention**
- Any invention or technology which has not been anticipated by publication in any document or used in the country or elsewhere in the world before the date of filing of patent application with complete specification.

- Type and Term of Patents**
- Product patents
 - Process patents
- Term of patent 20 years from date of filing**

Non patentable inventions

- (i) An invention which is frivolous or which claims anything obviously contrary to well established natural laws e.g. different types of perpetual motion machines.
- (ii) An invention whose intended use or exploitation would be contrary to public order or morality or which causes serious prejudice to human, animal or plant life or health or to the environment e.g., a process for making brown sugar will not be patented.

Non patentable inventions

- (iii) The mere discovery of a scientific principle or formulation of an abstract theory e.g., Raman effect and Theory of Relativity cannot be patented.
- (iv) The mere discovery of any new property or new use of a known substance or the mere use of a known process, machine or apparatus unless such a known process results in a new product or employs at least one new reactant. For example, if someone discovers that aspirin could be used for treating some new disease, no patent can be granted for this discovery.

Non patentable inventions

- Mere discovery of a new form of a known substance not resulting in the enhancement of the known efficacy of that substance or the mere discovery of any new property or new use of a substance or process, machine unless it results into a new product or at least involves a new reactant.

Non patentable inventions

- Salts, esters, isomers, polymorphs, ethers, metabolites, pure form, particle size, mixtures of isomers, complexes, combinations and other derivatives of known substances shall be considered to be the same substance, unless they differ significantly in properties with regard to efficacy.

Non patentable inventions

- (v) A substance obtained by a mere admixture resulting only aggregation of the properties of the components thereof or a process for producing such substance.
- (vi) The mere arrangement or rearrangement or duplication of features of known devices each functioning independently of one another in a known way. If you put torch bulbs around an umbrella and operate them by a battery so that people could see you walking in rain when it is dark, then this arrangement is patentable as bulbs and the umbrella perform their functions independently.

Non patentable inventions

- (vii) A method of agriculture or horticulture. For example, the method of terrace farming cannot be patented.
- (viii) Any process for medical, surgical, curative, prophylactic, diagnostic, therapeutic or other treatment of human beings, or any process for a similar treatment of animals to render them free of disease or to increase economic value or that of their products. For example, a new surgical technique for hand surgery for removing contractions is not patentable.

Non patentable inventions

- (viii) Inventions relating to atomic energy;
- (ix) Discovery of any living thing or non-living substance occurring in nature;
- (x) Mathematical or business methods or a computer program per se or algorithms;
- (xi) Plants and animals in whole or any part thereof other than microorganisms but including seeds, varieties and species and essentially biological processes for production and propagation of plants and animals;

Non patentable inventions

- (xii) A presentation of information;
- (xiii) Topography of integrated circuits;
- (xiv) A mere scheme or rule or method of performing mental act or method of playing games;
- (xv) An invention which, in effect, is traditional knowledge or which is aggregation or duplication of known component or components.

BUDAPEST TREATY

- ✦ INTERNATIONAL CONVENTION REGARDING DEPOSIT OF STRAINS, MICROORGANISM.
- ✦ SET UP IN 1973
- ✦ OFFICIALLY APPROVED CULTURE COLLECTION CENTRES KNOWN AS DESIGNATED INTERNATIONAL DEPOSITORY AUTHORITY (IDA)
- ✦ IDA STORES DEPOSITED MICROORGANISM FOR AT-LEAST FIVE YEARS AFTER THE MOST RECENT REQUEST FOR A SAMPLE & FOR ATLEAST 30 YEARS FROM ORIGINAL DATE

DESIGN



- ☆ ORIGINAL & NOVEL
- ☆ RELATES TO FEATURE OF SHAPE, CONFIGURATION, PATTERN, ORNAMENT OR COMPOSITION OF LINES OR COLOURS APPLIED TO ANY ARTICLE IN 2-D OR 3-D OR BOTH FORMS
- ☆ SHOULD APPLY TO ANY ARTICLE BY INDUSTRIAL PROCESS (FOR REPLICATION) & BE AN INTEGRAL PART OF ARTICLE.
 - ⇒ s STAMPS, LABELS NOT COVERED
 - s PAINTINGS, SCULPTURES & LIKE NOT COVERED

Industrial Design

- Design should be new or original
- Designs are not original or new if not significantly different from known designs or combination of known design features.
- Designs dictated essentially by technical or functional considerations are not protected.
- Duration of protection - 15 years; initially for 10 years and then can be extended by another five years.

Industrial Design

- Making, selling or importing articles bearing or embodying design which is a copy or substantially a copy of a protected design considered infringement.
- Provisions of the Paris Convention like grace period for payment of fees, failure to work a design, right of priority are applicable.

Copyright

- 📖 literary, dramatic & musical work including software/programs,
- 📖 software, engineering drawings, plant layout design, mould design etc.
- 📖 artistic work
- 📖 cinematographic films including sound track & video film
- 📖 provides protection for expression of an idea and not for the idea itself. (Patent provides protection for implementation of an idea)

Copyright

1709 FIRST COPYRIGHT ACT (UK)
1957 INDIAN COPYRIGHT ACT
AMENDED 1983, 1984, 1992, 1994, 1999

INTERNATIONAL CONVENTION

- BERN CONVENTION 1886, 1908, 1928, 1948, 1989, 1990
- UNIVERSAL COPYRIGHT CONVENTION 1952

TERM LIFE+60 YRS

Trademarks Act 1999

- Service marks, collective marks and certification trademarks
- Concept of well known trademarks is recognized.
- Increasing the period of registration and renewal from 7 years to 10 years
- Allowing filing of single application for registration in more than one class
- Enhanced punishment for offences

Plant Variety Protection and Farmers' Rights (2001)

1. Registration to be allowed for :
 - Plant Breeder's Varieties, (PBV)
 - Extant varieties (EV)
 - (includes Farmers' varieties)
2. PBV to satisfy the NDUS conditions,
3. EV and FV to satisfy DUS conditions,
4. Allows elaborate farmers' rights

Plant Variety Protection and Farmers' Rights Act

- Term of protection:
 1. 18 years from date of registration in case of trees and vines (initial protection for 9 years and then can be extended to 18 years)

Plant Variety Protection and Farmers' Rights Act

2. 15 years from date of notification of that variety by Central Government under the Seeds Act 1966 in case of extant variety (initially for 6 years and then can be extended to 15 years).
3. 15 years in other cases from date of registration

Main Features of PVPFR (contd.): Farmers' Rights..... :

1. **Right to register farmer's varieties,**
2. **Benefit sharing for use of biodiversity conserved by farming community,**
3. **Right to save, use, sow, re-sow, exchange, share or sell farm produce including seed of registered variety,**
4. **Right to claim compensation from under performance from the promised level,**
5. **Requirement to seek consent of farmer(s) when farmer variety is used to develop an essentially derived variety (EDV) ,**
6. **Protection from legal proceedings of an alleged infringement, and**
7. **Exclusion from paying fee in any legal proceedings in Tribunal and Higher Courts.**

Geographical Indications

- Indications which identify a good as originating in the territory of a member or a region or a locality in that territory, where a given quality reputation or other characteristics of the good is attributable to its geographical origin.
- Properly protected GI will give protection in domestic and international market.

Geographical Indications

- Darjeeling Tea
- Alphanso Mango
- Kanjeevaram silk
- Bikaneri Bhujia

Geographical Indications

- Documentation required for establishing uniqueness. Study archive records, other records, DNA fingerprinting, climatic conditions etc.

Geographical Indications

- Clearly identify geographic area, submit map.
- Have quality control system in place

The GI Act, 1999, India

Punishment for falsifying GI:

Imprisonment between 6 months to 3 years, &
Fine between Rs. 50,000/- and Rs. 2 lakh

Registration

Controller General of Patents, Designs and Trade Mark shall be the Registrar of GI

Who can Apply

Any association of persons or any organization or authority under law representing the interest of producers of concerned goods.

The GI Act, 1999

Duration

- 10 years (Renewed from time to time after payment of prescribed fee)
- Can be kept alive for an indefinite period

Protection of Integrated Circuits Layout Design

- ☐ Provides Protection of Semiconductor IC layout design
- ☐ Layout - Design - A layout of transistors and other circuitry elements and includes lead wires connecting such elements and expressed in any manner in a semiconductor IC.
- ☐ Semiconductor IC - A product having transistors and other circuitry elements which are inseparably formed on a semiconductor material or an insulating material or inside the semiconductor material and designed to perform an electronic circuitry function.

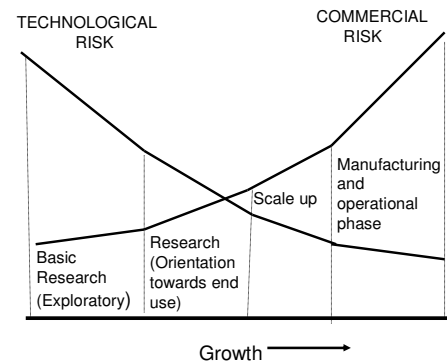
IC Layout-Design

Term 10 Years from date of filing

Rights conferred

1. Exclusive right to the use of the layout - design and
2. Obtain relief in respect of infringement.

TECHNOLOGY DEVELOPMENT CHAIN



Rights and responsibilities

Obtaining and maintaining IP, especially patents require many actions and funds.

- Patent search
- Patent filing
- Handle opposition and objections
- Renewal of patents
- Handle infringement
- Licensing and transfer of IP

Nature of knowledge transfer from academics

- IP licensing is more common. This needs to be encouraged. Once licensed, renewal and maintenance should be the responsibility of the licensee. Academics should move quickly to new areas of knowledge.
- Technology transfer not common because of lack of resources to develop the complete technology transfer package.

Packaging inventions

- Learn to package R&D products and technology in such a way that it makes sense to all stakeholders, creditors, customers, suppliers, regulatory authorities, financial analysts and so on. Esoteric view point will no longer be acceptable.

IP policy

Many universities in the developed countries of the west have their IP policies and IP cells. Many cells are usually managed by lawyers having technical background. Some are also managed by technical people.

Sources of funds

- Self
- Government(s)
- Industry
- Financial institutes
- VCs
- Trusts
- Combination of two or more
- Foreign agencies
- International agencies

Issues in licensing / transfer

- Exclusive / non exclusive
- Territory of protection and exploitation
- Term
- Which IPR out of bundle of IP rights
- Renouncement of rights
- Maintaining IPR e.g., payment of renewal fees

Issues in licensing / transfer

- Infringement
- Confidentiality
- Materials transfer agreements
- Ownership
- Sharing of rights
- Further improvements
- Remuneration to inventors

International agreements

- IPR agreements with EU, Russia and France
- Concept of Technology Management Plan to be signed between collaborators in each project.
- Important as industries take part in joint research and development
- Issues like ownership, distribution, maintenance, renouncing rights, revenue sharing, escape clauses, territorial rights are covered.

Changing scene

- Licensing field becoming complex
- Many players getting involved
- Industries are in flux
- Detailed record keeping and documentation is essential
- Conflict management
- International collaborations
- Litigation based transactions

Funding intangibles

- Productivity of research units is maintained through large investments but the investments are not liabilities in that sense. In crisis this cannot leverage external funding.
- The company has to maintain liquid assets to keep its R&D competitive

Relative importance of intangible asset	Loss of enterprise value due to financial distress
Agriculture, metals, railroad, power	10%
Autoparts, casinos, chemicals, oil and gas	20%
Consumer products, defense, hospitals, hotels	30%
Biotech., pharma, IT, software	80%
Enterprise value= market value of the company's shares + value of the debtless cash	Ref: HBR November 2003

Purpose

- Licensing (commercial, further R&D)
- Assignment
- Partnership
- Joint venture
- Launch your own company
- Mergers / takeovers
- Enhancing market value
- Raising funds

IP AS COLLATERALS FOR SECURING LOANS

NEW EMERGING AREA
 IP RICH COMPANIES WILL BENEFIT
 R&D UNITS WILL BENEFIT
 NEW LEGISLATION TO REGISTER SECURITY INTEREST
 VALUATION OF IP

Who's perspective?

- University
- R&D institution
- Government agency
- Industries
- Venture capitalists
- Financial institutions

Bundle of rights

- Each property governed by different laws
- Each property has different norms for ownership
- Each property has different longevity (Term)
- Each property different in scope (territorial nature)
- Each property has different cost for protection

Factors in valuation

1. Is the license the first for you or the product?
2. What makes this license different from the rest?
3. What is the territory to be covered by license?
4. Is the license exclusive, non-exclusive or limited exclusive?

Factors in valuation

5. Does it provide any market lead?
6. What cost was incurred in R&D?
7. Are any substitutes available to the invention?
8. What would be the start up cost and capital investment?
9. What would be the prospective income on the invention?

Factors in valuation

10. How long will it take to convert the invention into technology?
11. At what stage is the property being licensed? Immediately after filing or after grant or few years after grant?
12. Is the invention covered by one patent or more than one patents?

Factors in valuation

13. Is the product derived from the invention protected through multiple routes?
14. Is the invention economically comparable with available options?
15. How valuable is the invention?
16. Do we have the necessary documentation for licensing?

Factors in valuation

17. Will you be in a position to help the licensee in defence of IP litigation?
18. Are you in a position to carryout improvements and share with the licensee?
19. Does the company have necessary technical expertise to take on the invention /product?

Emerging trends

- Increased collaborative research and technology transfers- faculty needs to address such issues, IP professionals in industry must know how to negotiate. Basic training has to start at an educational institution.

Emerging trends

- Speed of discovery has increased manifold in recent years. True for biotechnology, micro-biology and electronics. Researchers in science and technology must spend larger time in research. Interface is required to convert research into IP. The researcher, however must know some basics. It is better to expose him/her at the Ph.D /M.Sc level. Teaching must address the role of interface.

Emerging trends

- Documentation and notebooks of research findings, experimental details etc. are becoming important. Industry will go to an inventor who maintains an immaculate notebook. Maintenance of record books should become an integral part of any training.

IP policy

IIT at Mumbai, Kharagpur, Delhi, Chennai and IISc have their IP policy in place. IIT Roorkee is in the process of formulating one. Some other academic institutions have their policies but most of them address royalty sharing. These are also the places having IP cells of their own.

IP policy

Will IP policy make a difference?

Yes.

Institutes ought to generate their own resources. Hence management will drive research programmes accordingly.

Clarity will help faculty in making choices. Who doesn't like money?

IP policy

Global thinking is converging to allow universities to retain IPR and tech transfer royalties emanating from government funded projects. Germany has also adopted similar practice- a shift from individually owned IPR to institution owned IPR.

(Bayh-Dole Act has influenced the global thinking.)

What next?

- Person to person selling is too expensive. Communication technologies can open previously unavailable markets and create new markets for orphaned products.
- Deploy agencies for IP licensing in India and elsewhere. (High tech areas would benefit more)

What next?

- Facilitate hand holding after licensing by providing incentive and facilities to the inventor- some financial autonomy to the inventor for carrying out some experiments or do trouble shooting for the licensee, buying consumables, software, parts etc for the experiments visiting licensee's site as often as required and so on.

Patent Facilitating Centre (PFC)

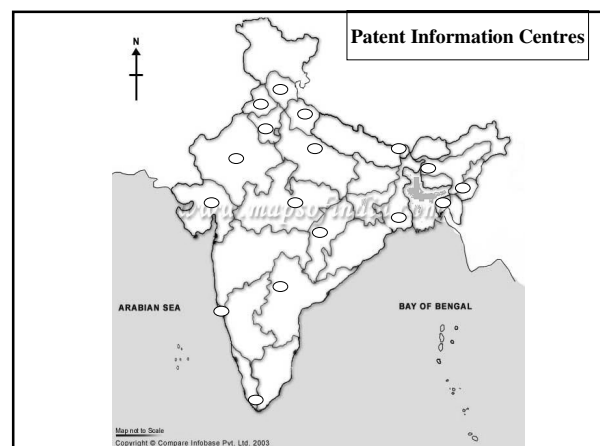
- Promote culture of using patent information in R&D planning
- Extend technical and financial assistance to scientists for protecting their innovative work
- Create awareness
- Act as watch dog

Awareness

- 300 workshops and training programmes
- 130 universities, 500 industries, 300 R&D institutes
- Workshops held in Mauritius, Namibia and Sri Lanka
- Children from schools and degree colleges are being brought in the net: special sessions at Children Science Congress at state and national levels

Easy to read and understand material

- FAQs (Questions and Answers on Patents, Copyrights, Designs and Geographical Indications)
- Sources of Patent Information
- Note on Patent Agents and Forms for patent/copyright filings
- Lecture Notes
- CD/Video on Patents Made Easy
- Different languages
- Telecast



Patent Information Centres in 20 States

- Tripura
- Karnataka
- Madhya Pradesh
- Punjab
- Tamil Nadu
- Gujarat
- Sikkim
- Assam
- Haryana
- Andhra Pradesh
- Manipur
- Rajasthan
- West Bengal
- Uttar Pradesh
- Uttarnchal
- Goa
- Chattisgarh
- Himachal Pradesh
- Jammu and Kashmir
- Kerala

PIC set up

- Joint effort by the Centre and States
- Some funding by PFC for staff, equipment, databases, internet
- PIC have developed expertise in patent searches
- PIC advise scientists and others on IPR matters in the state and neighbouring area.
- Conduct awareness workshops

PIC set up

- PIC help scientists in patent filing through PFC and independently.
- IPR literature available in Bengali, Hindi, Nepalese, Gujarati, Punjabi, English.
- More PIC will be set up during the Tenth Plan.

Women scientists scholarship for training in IPR

- One year training (on job)
- Rs 10000 p.m. and Rs 15000 p.m.
- Women from all fields of science and technology
- All India competition
- Faculty for orientation- Indian and foreign
- Good past experience

Guidelines for IPR and technology transfer

According to guidelines issued by DST

- Inventions emanating from projects funded by Ministry of Science and Technology and Department of Ocean Development at publicly funded institutions may be owned by the institutions. Inventors must assign the invention to the institute.

Guidelines for IPR and technology transfer

- Institutions can undertake technology transfer on exclusive/ non-exclusive basis and retain all the revenue.
- Institution may determine share of inventors and other persons. Such share will be limited to 1/3 rd of the actual earnings.

Guidelines for IPR and technology transfer

- Government will have a March-in-Right and shall have a royalty free license for use of the property by the government in public interest.
- IPR generated through joint research by institutions and industry can be owned jointly by them as mutually agreed upon.

Guidelines for IPR and technology transfer

- Each institution should establish a Patent Facilitating Fund by setting aside 25% of such earnings.
- The institutions shall submit information relating to the details of patent obtained, benefits and earnings arising out of IPR and turnover of the products.

Guidelines for IPR and technology transfer

- The institution and industry may transfer technology to third party for commercialization. The third party must manufacture the product in India. The revenue sharing arrangements for inventors remain the same.
- The guidelines will be reviewed after 5 years.

Filings by academic institutions

- Universities other than IITs & IISc

Year	Applications	No of univ.
1999	30	14
2000	36	21
2001	33	16
2002	33	17
2003	86	41 (provisional)
Total	218	57
1995	4	3

Filings by academic institutions

- IITs and IISc

Year	Applications
1999	32
2000	42
2001	63
2002	46
2003	67 (provisional)
Total	250
1995	31

Filings by academic institutions

- All academic institutions

Year	Applications	No of institutions
1999	62	22
2000	78	29
2001	96	24
2002	79	25
2003	153	50 (provisional)
Total	468	115
1995	35	9

Filings by academic institutions

- 4 year block

	1995-98	1999-2002	
%incr.			
Universities	54	132	244
IITs and IISc	98	183	187
Total	152	315	207