

Intellectual Property Rights and Patents

**INTERNATIONAL SUMMER SCHOOL ON
WIRELESS POWER TRANSMISSION FOR
SPACE APPLICATIONS**

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University of Aveiro – 23-26 June 2014



AGENDA

1. BACK TO BASICS

a. A few concepts

- ✓ IPR
- ✓ Inventions
- ✓ Patents
- ✓ Know-how
- ✓ Secrets

b. Patenting

- ✓ Prior Art
- ✓ Procedure

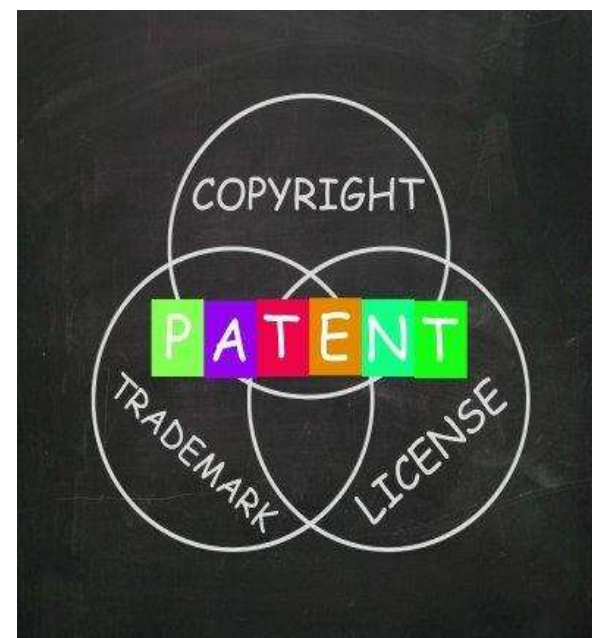
2. PATENT SEARCH

- a. Why bother?
- b. Resources
- c. Searching techniques
- d. DIY Searches

BACK TO BASICS

a. A few concepts

- ✓ IPR
- ✓ Copyright
- ✓ Industrial Property
- ✓ Invention
- ✓ Patent
- ✓ Know-how and Secrets



BACK TO BASICS

IPR (Intellectual Property Rights)

Encompasses the protection of the creations of the mind (as opposed to physical property rights):

- Literary and artistic works - Copyright
- Designs - Design
- Names used in commercial activity – Trademarks
- Inventions - Patents

Different creations: different protection

BACK TO BASICS

Copyright

Protects literary, artistic and scientific works, in the form or manner in which they are expressed - protects the owner of rights against unauthorized “copy”

Some highlights:

- © Ideas are not protected by copyright: only in as much as they are expressed – e.g. a book, a music, a statue, a painting, a software program
- © Copyright protection lasts normally for 70 years after the death of the last surviving author.

BACK TO BASICS

Industrial Property

Includes:

- Industrial designs
- Trademarks
- Protection against unfair Competition
- Patents

Word of advice:

Do not confuse industrial property with exploitation rights

BACK TO BASICS

Industrial Designs

An industrial design constitutes the ornamental or aesthetic aspect of an article. A design may consist of three-dimensional features, such as the shape or surface of an article, or of two-dimensional features, such as patterns, lines or color.



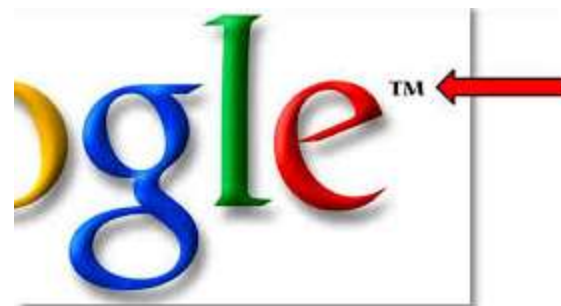
BACK TO BASICS

TradeMarks

A trademark, is a recognizable sign, design or expression which identifies products or services of a particular source from those of others.



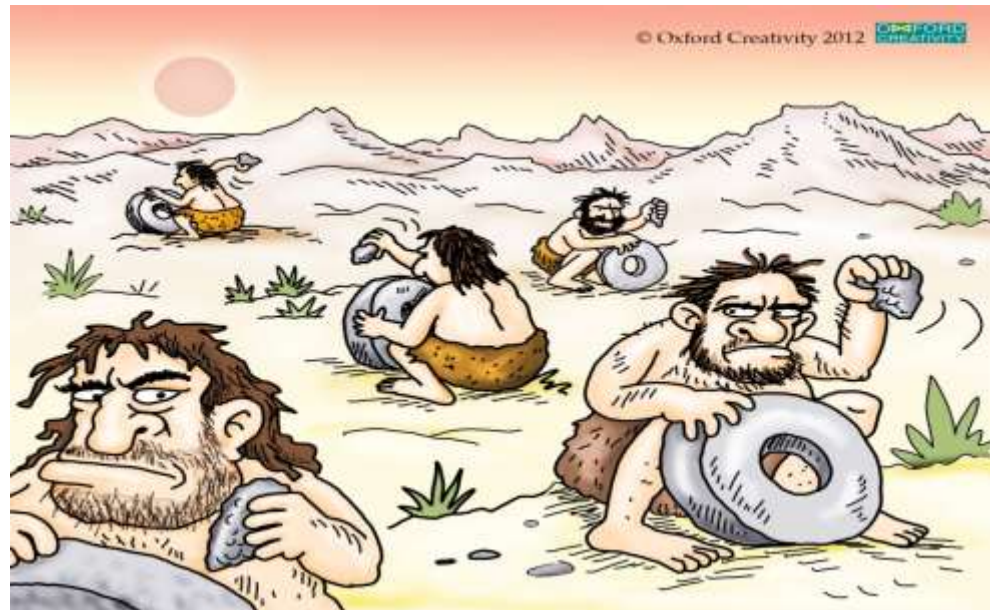
TESLA MOTORS



BACK TO BASICS

Invention

New solution (product or process) for an existing technical problem in any field of technology



BACK TO BASICS

What cannot constitute an invention

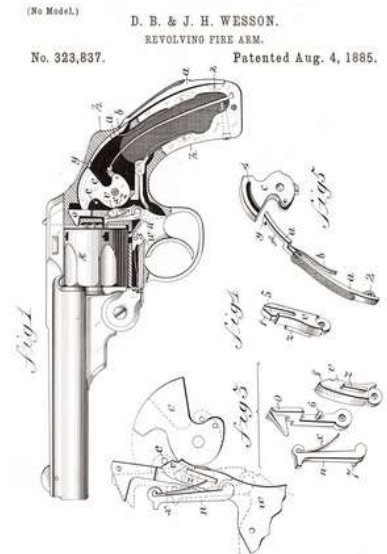
- discoveries, scientific theories and mathematical methods;
- aesthetic creations;
- schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers as such;
- presentations of information;
- methods of treatment for humans or animals, or diagnostic methods practiced on humans or animals (but not products for use in such methods).

BACK TO BASICS

Patent

Monopoly right, limited in time (20 years after date of filing), in a territory, granted to an inventor in exchange for the public disclosure of an invention that meets certain criteria:

**NOVELTY – INVENTIVE STEP -
INDUSTRIAL APPLICATION**



BACK TO BASICS

Patent

NOVELTY – INVENTIVE STEP - INDUSTRIAL APPLICATION

Art. 54 EPC - An invention shall be considered to be new if it does not form part of the state of the art

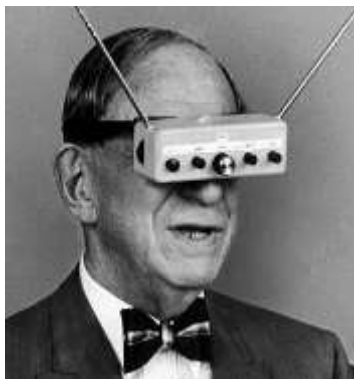


BACK TO BASICS

Patent

NOVELTY – **INVENTIVE STEP** - INDUSTRIAL APPLICATION

Art. 56 - An invention shall be considered as involving an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art (non-obviousness)



Patent

Art. 57 EPC - An invention shall be considered as susceptible of industrial application if it can be made or used in any kind of industry, including agriculture



BACK TO BASICS

Know-How and Secrets

Know-how can be defined as confidentially held, or better, 'closely held' information in the form of unpatented inventions, formulae, designs, drawings, procedures and methods, together with accumulated skills and experience in the hands of a licensor firm's professional personnel which could assist a transferee/licensee of the object product in its manufacture and use and bring to it a competitive advantage.

(http://en.wikipedia.org/wiki/Know-how#Definition_of_industrial_know-how)

The value of know-how resides in its **SECRECY**.

Trade secrets are complementary to the protection of IPR

BACK TO BASICS

b. Patenting



Prior Art



Procedure



*Image courtesy of Stuart Miles /
FreeDigitalPhotos.net*

BACK TO BASICS

Prior Art

Rule 33 –PCT

Everything which has been made available to the public anywhere in the world by means of written disclosure (including drawings and other illustrations) and which is capable of being of assistance in determining that the claimed invention is or is not new and that it does or does not involve an inventive step (i.e., that it is or is not obvious), provided that the making available to the public occurred prior to the international filing date.



BACK TO BASICS

Prior Art

Art 54 EPC

The state of the art shall be held to comprise everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the European patent application.



BACK TO BASICS

Procedure

I have an invention. What now?

- Make a publication, improve your CV
- Explore it, and keep it as a secret
- Explore it, get a monopoly, submit a Patent.

BACK TO BASICS

Procedure

Reasons not to patent

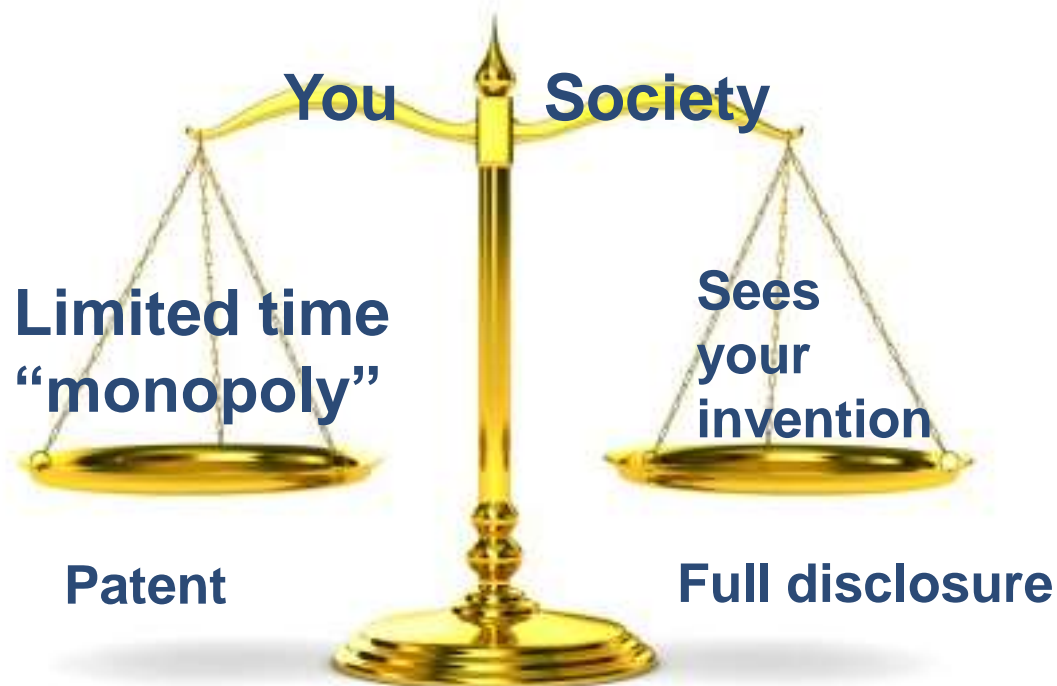
- There's no foreseeable commercial value
- There's no competitive advantage (alternatives exist)
- You've secured your Freedom-to-Operate
- Time to market is more important than the technology
- Other barriers to entry exist
- No money to pay for it
- You can't afford to enforce it if you get it
- You haven't done a prior art search
- Can't be reversed engineered – Trade Secret



BACK TO BASICS

- Procedure

I have an invention. What now?



BACK TO BASICS

Procedure

Inventor vs Applicant

Inventor is the natural person that created the invention
(there can be more than one)

Applicant is the natural or legal person that applies for the
patente

Important:

If a patent application is not filled by its inventor, he/she has the right to be mentioned both on the application and in the patent title.

BACK TO BASICS

Procedure

Rules for detemining ownership of the invention in the Universities:

- If an invention results from the research done under the PhD work, or under a Research funded project in the University, the inventor should read the University IP model to better understand his freedom and obligations.
- **MIT [USA] > They own your work (if \$ comes from university)**
- **University of Aveiro**
 - The University owns the intellectual property rights relating to inventions ... made by teachers within or as a result of their duties as teaching or research at the University.
 - The inventor is entitled to a share of the profits resultant the exploration of intellectual property. The percentage of the profits is negotiated with the university.

BACK TO BASICS

Procedure

Rules for determining ownership of the invention – Portugal:

- If an invention results from the research done under a labor contract, and the inventive activity is mentioned in that contract, the right to own the patent or utility model belongs to the employer.
- If a patent or utility model application is filed in the year following the end of the work contract, the invention is considered to have been made during it.
- In case of commissioned work, the right to own the patent belongs to the person who made the order, unless a different agreement exists.

BACK TO BASICS

Procedure

I have an invention. What now?

- Decide on the scope of protection: national, european, worldwide - PCT
- Draft the patent application

BACK TO BASICS

Procedure

6) - Decide on the scope of protection:

- This decision should be made based on the business case you have, and the markets your business case support.
- The cost of the patent increase as we increase the number of countries, and also the number of year it last.



BACK TO BASICS

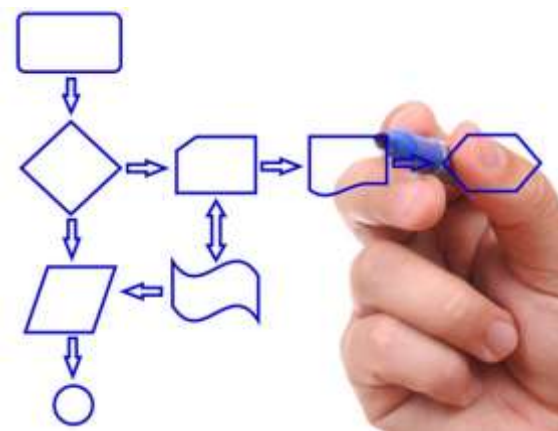
Procedure

6) - Decide on the scope of protection:

- National – a patent granted in a country is enforceable only in that country

Portugal - INPI

- European
- PCT – potentially worldwide



BACK TO BASICS

Procedure

National Application general timeline

- Filing Date (T0)
- Formal Examination (T0+1)
- Search Report with Reasoning (T0+1 up to T0+18)
- Publication (T0+18)
- Substantial Examination (T0+21)
- Decision: grant or refusal

BACK TO BASICS

Procedure

National Application – Provisional Patent Application

- Marks the priority date;
- The applicant must only present a description of the invention;
- Cheaper and faster;
- On or before 12 months, the applicant must decide if he wants to convert the application and proceed with the granting procedure

BACK TO BASICS

Procedure

European - EPC

- Single European procedure for the grant of patents on the basis of a single application and one single examination
- In each contracting state for which it is granted, a European patent gives its proprietor the same rights as would be conferred by a national patent granted in that state

BACK TO BASICS

Procedure

-PCT- By filing one international patent application under the PCT, applicants can simultaneously seek protection for an invention in 148 countries throughout the world:

- One single formal examination (Receiving Office)
- Search report
- One single publication

BUT,

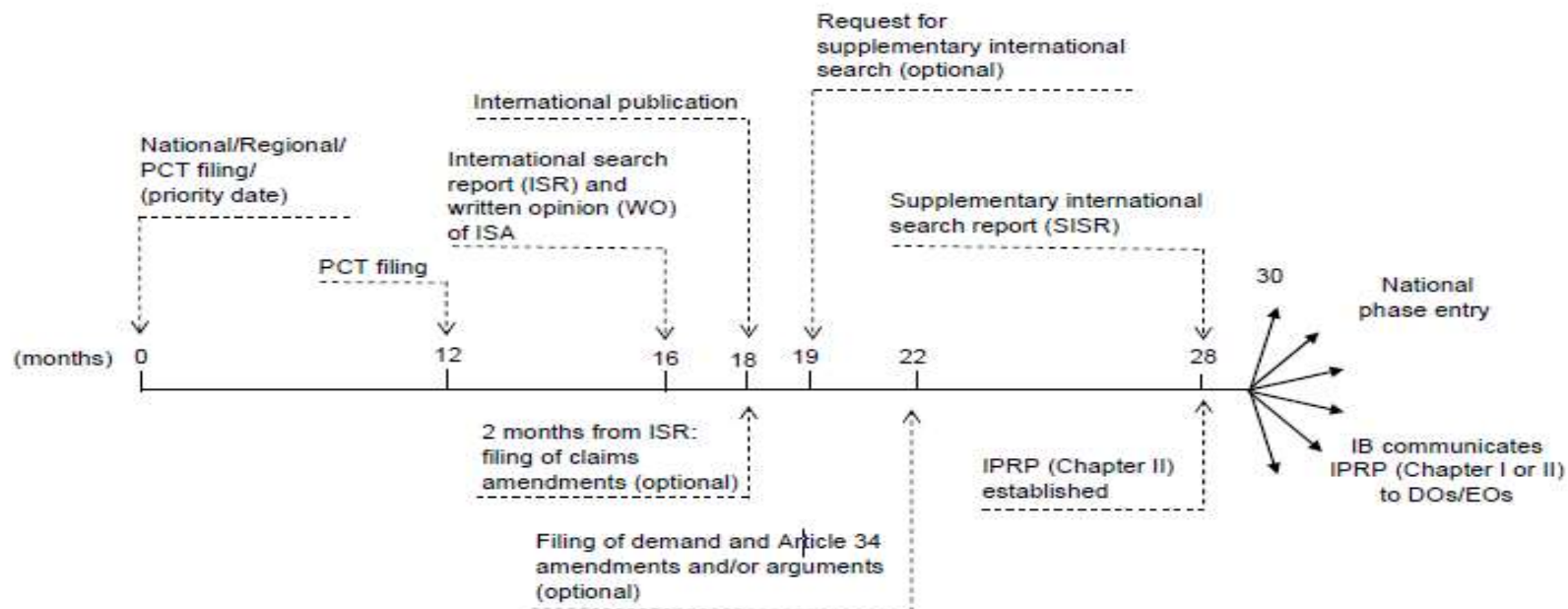
National Applications conducted independently by each national office; the same invention can be protected with different claims

THERE IS NOT A WORLD PATENT!



BACK TO BASICS

PCT TIMELINE



WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

Timeline-2
20.05.19



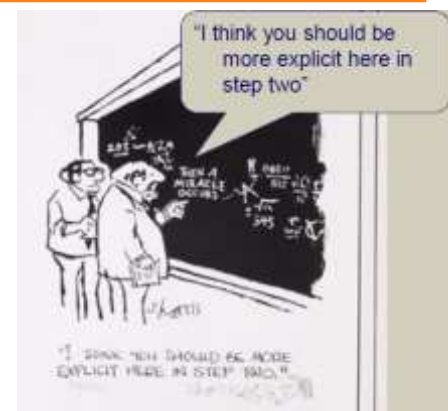
BACK TO BASICS

Procedure

1) - Draft the patent application

Description - disclose the invention in a manner sufficiently clear and complete for the invention to be evaluated, and to be carried out by a person having ordinary skill in the art

http://worldwide.espacenet.com/publicationDetails/description?CC=EP&NR=2306615A2&KC=A2&FT=D&ND=3&date=20110406&DB=worldwide.espacenet.com&locale=en_EP



BACK TO BASICS

Procedure

2) - Draft the patent application

–Claims – phrases which determine the scope of the protection

http://worldwide.espacenet.com/publicationDetails/claims;jsessionid=2D9217A3074CE8DD532D4A76800AC69B.espacenet_levelx_prod_1?CC=EP&NR=2306615A2&KC=A2&FT=D&ND=3&date=20110406&DB=worldwide.espacenet.com&locale=en_EP

Claim 37 of U.S. Pat. No. 5,999,908

- A system for managing information about a value to users of units of a computer product that are in use by the users, the system comprising:
- In each of the units of the computer product, a user interface which provides a medium for two-way local interaction between the user and the unit of the product,
- Interaction scripts that mediate two-way interaction between each of the users and the corresponding unit of the product via the user interface, each of the interaction scripts carrying information about the value to users of using the product,
- A value information server accessible via a public communication network from each of the units of the computer product and by a vendor of the computer product, the value information server storing interaction scripts and the value information that results from the interaction scripts, and
- A communication element that carries the interaction scripts and the information that results from the interaction scripts between the units of the products and the value information server, and between the value information server and the vendor.

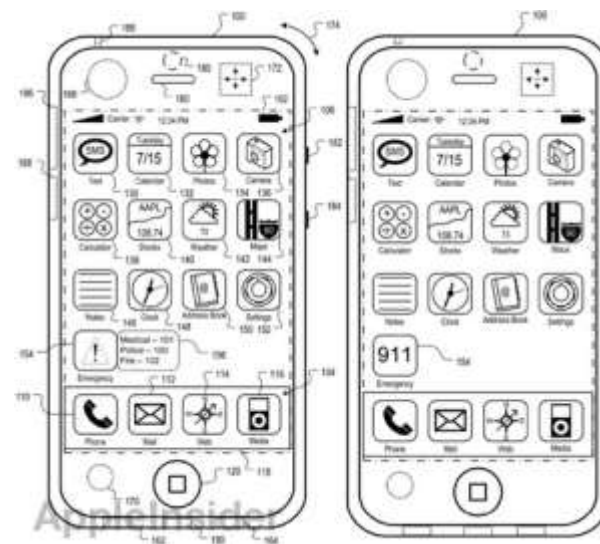
BACK TO BASICS

Procedure

3) - Draft the patent application

–Drawings (if any)

http://worldwide.espacenet.com/publicationDetails/mosaics?CC=EP&NR=2306615A2&KC=A2&FT=D&ND=3&date=20110406&DB=worldwide.espacenet.com&locale=en_EP



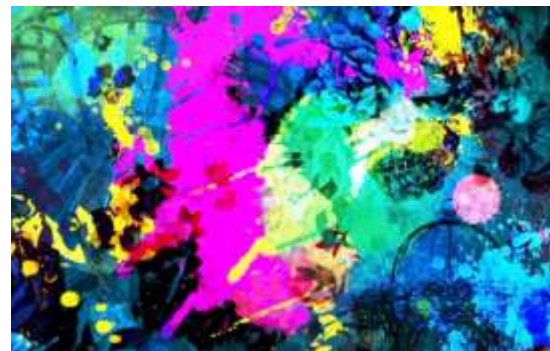
BACK TO BASICS

Procedure

4) - Draft the patent application

Abstract - short summary of the description and the claims. It serves the purpose of enabling third parties to obtain quick information about the essential contents of the invention.

http://worldwide.espacenet.com/publicationDetails/biblio?CC=EP&NR=2306615A2&KC=A2&FT=D&ND=3&date=20110406&DB=worldwide.espacenet.com&locale=en_EP



PATENT SEARCHING

- a. Why bother?
- b. Resources
- c. Searching techniques
- d. DIY Searches



PATENT SEARCHING

a. Why bother?

To determine if an invention is novel (novelty searches):

- avoid duplicate of research (reinvent the wheel)
- reduce/ prevent significantly R&D costs
- be sure if a particular product is free of any IPR and related legal issues



...AND I HAVE FOUND THIS ONE WORKS A LOT BETTER.

PATENT SEARCHING

a. Why bother?

- To invalidate a competitor's patent
- Intelligence: monitoring the activity of the competition
- Find potential partners (licensing arrangements)



PATENT SEARCHING

a. Why bother?

- To prove that a product or process does not infringe an existing patent (freedom to operate search)
- Prevent infringement actions
- Assurance in the go to market



PATENT SEARCHING

a. Why bother?

■ And...

- Use patent information to identify patents that are no longer in force and can be freely used.
- Spot technological and market trends



PATENT SEARCHING

b. Resources

Free online patent databases

Commercial Databases



PATENT SEARCHING

a. Resources

Free online patent databases

WIPO



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Front Page

Office: All

Search



PATENT SEARCHING

a. Resources

Free online patent databases

EPO – Espacenet



The screenshot shows the top navigation bar of the EPO Espacenet website. On the left is the EPO logo with the text 'Europäisches Patentamt', 'European Patent Office', and 'Office européen des brevets'. In the center, there are two tabs: 'Site search' and 'Patent search'. Below the 'Patent search' tab is a search input field with the placeholder text 'Enter search term' and a 'Search' button. Below the input field is a checkbox labeled 'Search current area only' and a link to 'Advanced search'. On the right side of the bar are links for 'Deutsch', 'English', 'Français', 'About us | Media', and 'Service & support | Contact'.

USPTO



The screenshot shows the header of the USPTO Patent Full-Text Databases page. On the left is the USPTO seal. To its right is the text 'United States Patent and Trademark Office' and 'An Agency of the Department of Commerce'. On the right side of the header is a dark blue box with the text 'Patent Full-Text Databases' in white.



PATENT SEARCHING

a. Resources

Free online patent databases

Google



Pesquisar Patentes

Pesquisa do Google

Sinto-me com sorte



PATENT SEARCHING

Free online patent databases

Patexia



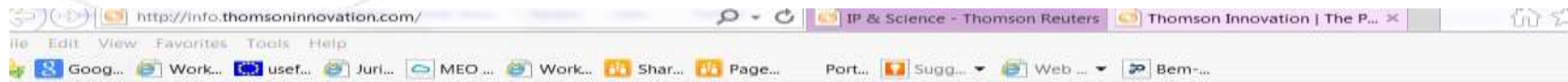
The screenshot displays the Patexia Research website. The top navigation bar includes links for Contest, Community, Connect, Research, and a Search Patents button. A sign-in button for LinkedIn is also present. The main header reads "Patexia. Research". On the left, a "Research" sidebar lists Patents, Lawsuits, and Papers, with Patents selected. The main content area is titled "Patent Search" and contains a "Patent Search Criteria" section. This section includes a "Keywords" input field with a search icon, a row of checkboxes for Title, Doc number, App number, Abstract, Description, and Claims (all checked), and a "Type" section with checkboxes for Patent and Patent Application (both checked).

PATENT SEARCHING

a. Resources

Commercial patent databases

Thomson



THOMSON INNOVATION



THOMSON REUTERS

FEATURES

IN ACTION

CUSTOMERS

WEBINARS

SUPPORT

TRAINING

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THE LEADING
IP INTELLIGENCE
AND
COLLABORATION
PLATFORM



TAKE THE
QUICK TOUR



REQUEST A
FREE DEMO



GET THE
NEWSLETTER



instituto de
telecomunicações

PATENT SEARCHING

a. Resources

Commercial patent databases

DELPHION



The screenshot shows the Delphion website interface within a web browser. The browser's address bar displays <http://www.delphion.com/>. The website header features the "DELPHION" logo and navigation tabs for "RESEARCH", "PRODUCTS", and "INSIDE DELPHION". A prominent banner advertises "SEARCH 54 MILLION WORLDWIDE PATENTS" with a "START NOW" button. On the left, a sidebar lists links for "Individual Subscriptions", "Group Subscriptions", "Basic Registration", and "Tools and Features", along with a "Log In" section containing fields for "User Name" and "Password". The main content area includes a "Headlines" section with several news items, such as "Important Message for DWPI on Delphion Customers" and "Thomson Reuters Names Top 100 Global Innovators". A "GOODBYE DELPHION." notice is also visible, stating "HELLO THOMSON INNOVATION" and mentioning the retirement of Delphion in September 2014.

PATENT SEARCHING

C. Searching techniques

- Keyword-based search
- keywords describing the invention combined with Boolean, proximity and other specialized operators (wildcards)



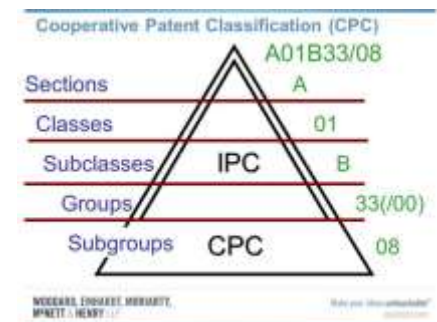
PATENT SEARCHING

c. Searching techniques

Patent-Class-based search









Patent offices worldwide use the International Patent Classification (IPC). There are approximately 70 000 different IPC codes for different technical areas.

The Cooperative Patent Classification (CPC) is an extension of the IPC and is jointly managed by the EPO and the US Patent and Trademark Office.










PATENT SEARCHING

c. Searching techniques

Scheme	RCL	Compilation	Catchwords	Guide to the IPC
	A	SECTION A — HUMAN NECESSITIES		
	B	SECTION B — PERFORMING OPERATIONS; TRANSPORTING		
	C	SECTION C — CHEMISTRY; METALLURGY		
	D	SECTION D — TEXTILES; PAPER		
	E	SECTION E — FIXED CONSTRUCTIONS		
	F	SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING		
	G	SECTION G — PHYSICS		
	H	SECTION H — ELECTRICITY		

PATENT SEARCHING

c. Searching techniques

Symbol	Classification and description	
H	ELECTRICITY	 
H02	GENERATION; CONVERSION OR DISTRIBUTION OF ELECTRIC POWER	
H02J	CIRCUIT ARRANGEMENTS OR SYSTEMS FOR SUPPLYING OR DISTRIBUTING ELECTRIC POWER; SYSTEMS FOR STORING ELECTRIC ENERGY (for digital computers G06F 1/18 ; circuits or apparatus for the conversion of electric power, arrangements for control or regulation of such circuits or apparatus H02M ; interrelated control of several motors, control of a prime-mover/generator combination H02P ; control of high-frequency power H03L ; additional use of power line or power network for transmission of information H04B)	   
H02J 17/00	Systems for supplying or distributing electric power by electromagnetic waves	

PATENT SEARCHING

c. Searching techniques

Applicant/ Inventor-name and Assignee-name Based search

Conducted to identify patents associated with inventors/authors/assignees who are working actively in the domain of interest/invention/patent to be invalidated



PATENT SEARCHING

a) Searching techniques

Typical searchable fields in patent databases

PN – Publication Number

AP – Application Number

PA - Patent Applicant ou Patent Assignee

IN – Inventor

TI – Title

AB – Abstract

IC – International Classification

CT – Citations

http://worldwide.espacenet.com/advancedSearch?locale=en_EP



PATENT SEARCHING

DYI SEARCHES

DIY Searches

- <http://www.witricity.com/technology/intellectual-property/>



Thank you

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