

Patent Search

Databases & Accessibility



PG Diploma In Patents
NALSAR University of Law, Hyderabad
Contact Class; November, 2018.

“Data, when organized, becomes information; information, when analyzed, becomes intelligence. Based on this model, intelligence professionals usually execute on a four-phased process, or cycle:



- 1) they identify the intelligence needs of key decision makers across the firm;*
- 2) they collect information about events in a firm’s external business environment from print, electronic, and oral sources;*
- 3) they analyze and synthesize the information; and*
- 4) they disseminate the resulting intelligence to decision makers.”*

– Jerry Miller

Millennium Intelligence: Understanding and Conducting Competitive Intelligence in the Digital Age

Prior art searching is that required optimism to draw meaningful conclusions concerning
Business
Technology
Legal

A I M

VALUE

- Maximize
- Branding

RISK

- No violation
- Sustain the business model



What is Pat-informatics?

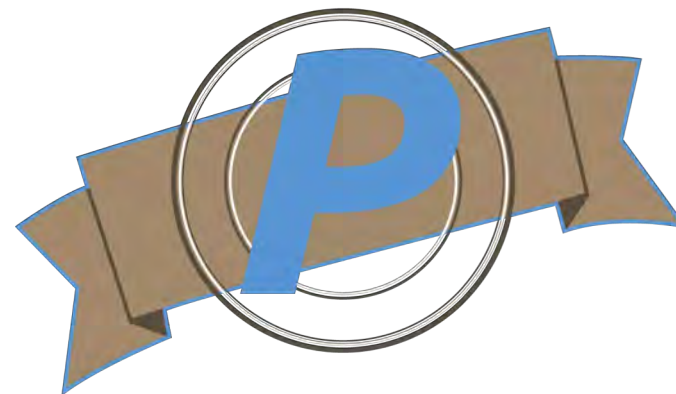
Prior Art

- Made available to public
- Anywhere in the world
- By written disclosure
- Assisting in determining the claimed invention is new and involves an inventive step
- Prior to filing date

The science of analyzing patent information to discover relationships and trends, which would be difficult to see when working with patent documents on a one-on-one basis.

Why Pat-informatics is important?

To avoid infringement of any unexpired third party patents.
To study technology trends.
To identify technology gaps (if any).
To identify technology collaborators.
Evaluate licensing opportunity.



Technology/ Patents

Define technology space

Identify key players

Identify key knowledge

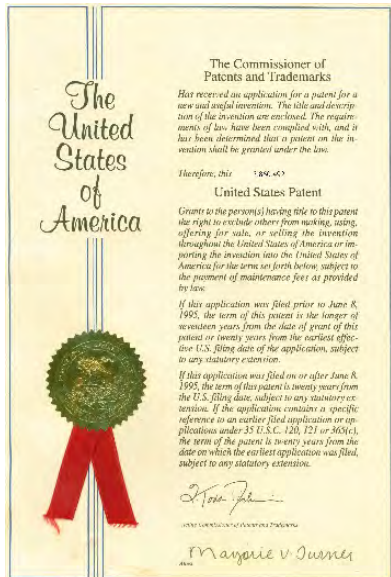
Identify business opportunities

Determine patentability

Invalidate third party patents

Determine portfolio value

Licensing
Opportunities



Pat-informatics: Some Answers

What is occurring in a particular technological area:



What are the subjects where research is being done ?

What are the emerging research lines ?

Which are the players in a technical field ?

Which are the leading research teams ?

What is the quality of research?

How financed are the research teams?

is it an ongoing serious research?

What are the technological trends ?

What are the patenting trends ?

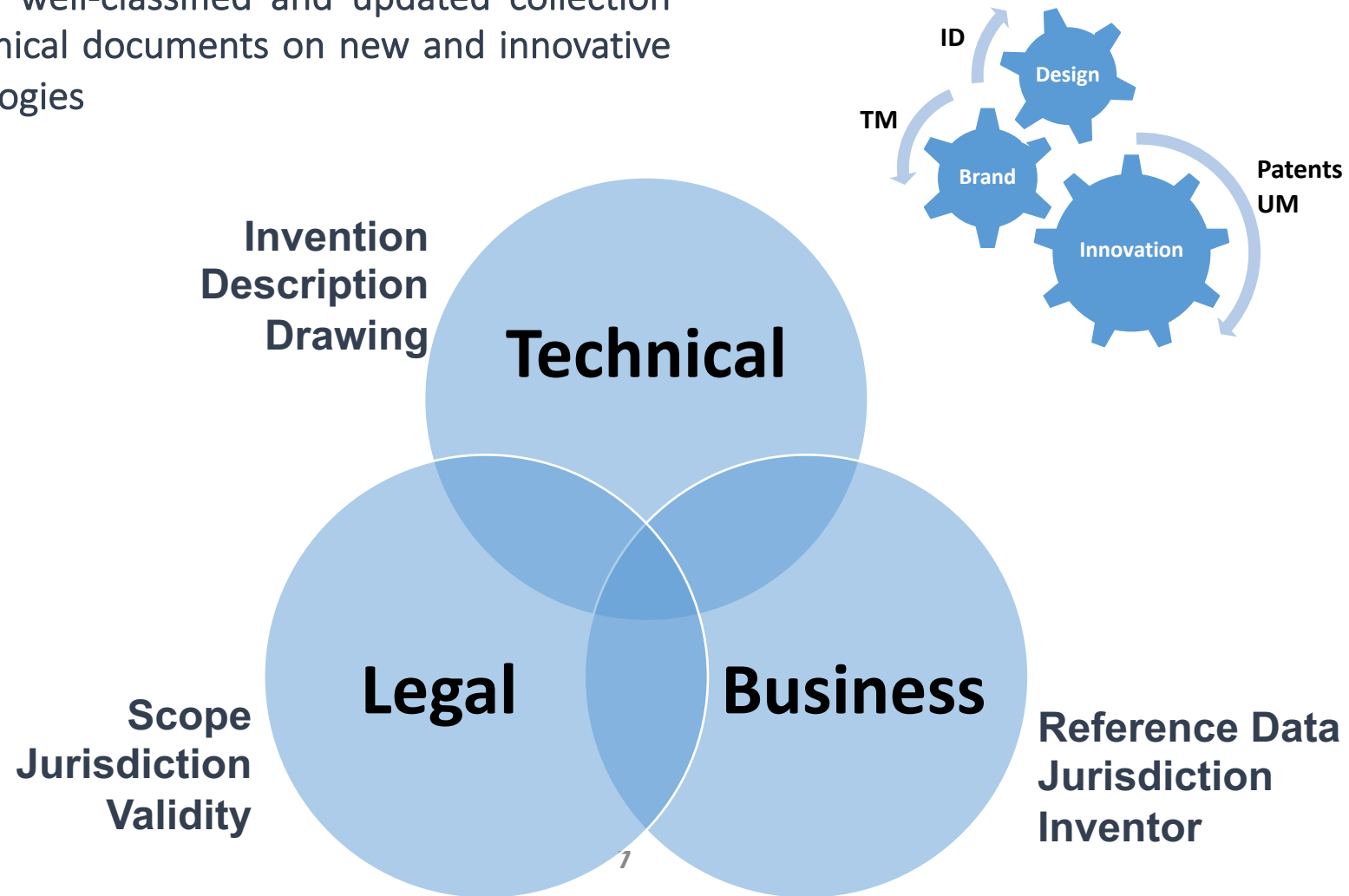
What are the technology portfolios of a company ?

What are the technical strategies of a company ?

Which are the markets in mind?

Patents

Largest, well-classified and updated collection of technical documents on new and innovative technologies



Where to Search which Prior Art

Patentability

- Patent Literature (full text)
- Non Patent Literature (full text)
- Usage

Validity

- Patent Literature (full text)
- Non Patent Literature (full text)
- Usage

Freedom to Operate

- Claims of unexpired patents (only)

Infringement

- Claim of unexpired patents (only)
- Prosecution History



Litigation History



Prior Art

- In a broad sense, technology that is relevant to an invention and was publicly available (e.g. described in a publication or offered for sale) at the time an invention was made. In a narrow sense, any such technology which would invalidate a patent or limit its scope. The process of prosecuting a patent or interpreting its claims largely consists of identifying relevant prior art and distinguishing the claimed invention from that prior art.
- PRIOR ART (PATENT) - Novelty and non-obviousness are judged against everything publicly known before the invention, as shown in earlier patents and other published material. This body of public knowledge is called "prior art."

Infringement Opinion

- Manufacturing or using an invention or improvement which someone else owns a government issued patent without receiving the patent owner's permission by contract, license or waiver. The party that infringes is liable to the patent owner for all of the profits from using the invention, as well as any harm that the inventor can prove, whether the infringement was intentional or not.



Where to Search?



Searching for Patents

How do people usually search for patents?

- Patent number
- Keyword



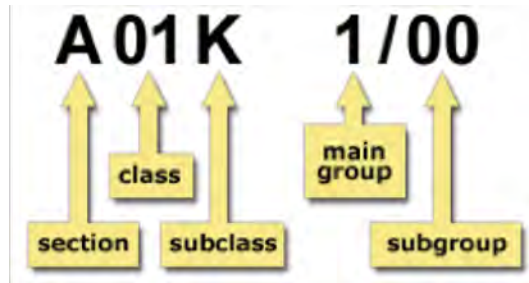
Classification	International (IPC), U.S. Classification, CPC, European Classification, etc.
Dates	Application, Issue, Publication, etc.
Names	Applicant, Inventor, Assignee, Examiner, Attorney/Agent, etc.
Numbers	Patent, Publication, Application, Priority, etc.

Patent Classifications

International Patent Classification (IPC)

- works as a universal classification for patents
- started in 1975 and periodically updated
- we currently use IPC 8th Edition.
- Section, Class & Group.

The International Patent Classification looks like this:



A 47 J 27/09 includes the safety device on your rice cooker

B 63 G 11/00 covers your various aircraft carriers

http://www.wipo.int/classifications/fulltext/new_ipc/index.htm

US Patent Classification

US Patents are classified with 400+ main classes and thousands of subclasses.

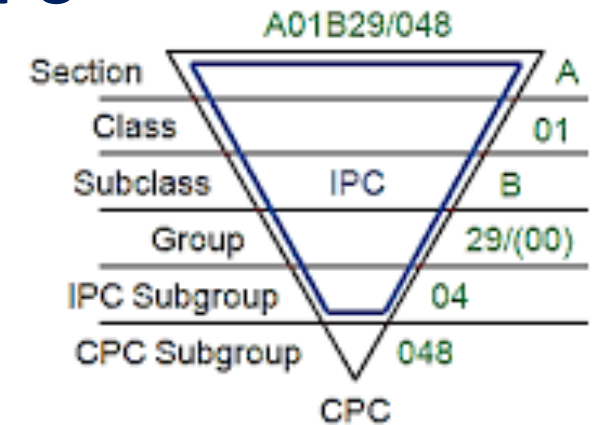
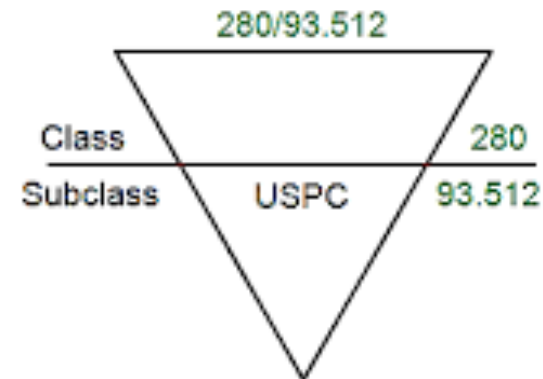
424 / 497
Class / SubClass

7/118 covers pocket knives

514/470 drugs - nitrogen bonded directly to the hetero ring

<http://www.uspto.gov/web/patents/classification>

CPC



Patent Office / Free Databases



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in Field 2:

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Patents from 1790 through 1975 are searchable only by Issue Date, Patent Number, and Current Classification.

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2001-present

Search

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Title

Abstract

Issue Date

Patent Number

Application Date

Application Serial Number

Application Type

Assignee Name

Assignee City

Assignee State

Assignee Country

International Classification

Current US Classification

Primary Examiner

Assistant Examiner

Inventor Name

Inventor City

Inventor State

Inventor Country

Government Interest

Attorney or Agent

PCT Information

Foreign Priority

Reissue Data

Related US App. Data

Referenced By

Foreign References

Other References

Claim(s)

**Espacenet**

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DE201310112935 Application number: Tooltip

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2014-12-31 or 20141231 Publication date: Tooltip

2014-12-31 or 20141231 Publication date: Tooltip

Enter name of one or more persons/organisations

Institut Pasteur Applicant(s): Tooltip

Smith Inventor(s): Tooltip

Smith Inventor(s): Tooltip

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F03G7/10 CPC Tooltip

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AND	Inventor Name	=	
AND	Office Code	=	
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AND	English Claims	=	
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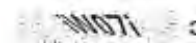
Patent Search

Publication Type:

☒ Published

☐ Granted

Application Date (Patent)	From: 20000101	To: 20000101	AND
Title	e.g. DISK DRIVE WHEEL MOUNTING MECHANISM		AND
Abstract	e.g. COMPUTER SOFTWARE		AND
Complete Specification	e.g. FINGERPRINT IDENTIFICATION		AND
Application Number	e.g. 2000000000		AND
Patent Number	e.g. 200042		AND
Applicant Name	e.g. BHEL Limited of Bhopal and Technology		AND
Applicant Country	e.g. IN		AND
Applicant Address	e.g. BHEL		AND
Inventor Name	e.g. BHEL		AND
Inventor Country	e.g. IN		AND
Inventor Address	e.g. BHEL		AND
Filing office	e.g. BHEL		AND
International Patent Classification (IPC)	e.g. H10		AND
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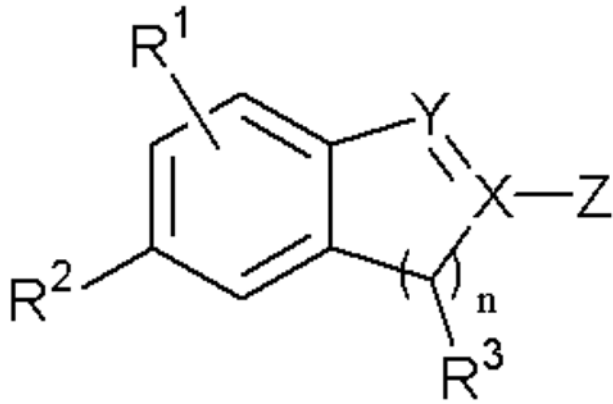
Commercial Databases



Formerly the IP & Science
business of Thomson Reuters



Chemical Structures & Sequences



Chemical Search Databases

- STN
 - CA/CAPLUS
 - CASREACT
 - CAS REGISTRYSM
 - MARPAT
- Derwent World Patents Index® (DWPISM)
- Questel, Merged Markush Service

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ATG TGT GGA ATC GTA GGA TTT ATT GGA GAG CAA GAT GCA AAG GAA ATT TTA TTA AAA GGT TTA GAA AAG CTA GAA
Met Cys Gly Ile Val Gly Phe Ile Gly Glu Gln Asp Ala Lys Glu Ile Leu Leu Lys Gly Leu Glu Lys Leu Glu

TAT CGT GGA TAT GAT TCA GCA GGT ATT GCA GTA CAA GCA GAG AAC GGT GTT GTT GTA TAC AAA GAA AAA GGC CGT
Tyr Arg Gly Tyr Asp Ser Ala Gly Ile Ala Val Gln Ala Glu Asn Gly Val Val Val Tyr Lys Glu Lys Gly Arg

ATC GCA AAA CTT CGC GAA ATC GTA GAT GAG AAC GTA GCA GCA AGC GTA GGT ATC GGA CAC ACA CGC TGG GCT ACA
Ile Ala Lys Leu Arg Glu Ile Val Asp Glu Asn Val Ala Ala Ser Val Gly Ile Gly His Thr Arg Trp Ala Thr

CAC GGT CTT CCA AGT AAA GTA AAC GCG CAT CCG CAT CAA AGT ACA TCA AAA CGC TTT ACA CTA GTT CAT AAC GGT
His Gly Val Pro Ser Lys Val Asn Ala His Pro His Gln Ser Thr Ser Lys Arg Phe Thr Leu Val His Asn Gly
    
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Sequence Search Databases

- GenomeQuest
 - The first intranet sequence search engine with percent identity and biological searching.
 - Works similar to premier web search engines, rapidly bubbling relevant records to the top.
 - The software automates the reporting of the most important and relevant matches, minimizing tedious research, while providing advanced search algorithms so no relevant sequences are ever missed.
- STN
 - DGENE(Thomson Reuters GENESEQTM):
 - USGENE® (The USPTO Genetic Sequence Database)
 - PCTGEN (WIPO/PCT Patent Application Biosequences, the complete collection of e-published sequences from WIPO)
 - CAS REGISTRYSM (Chemical Abstracts Service REGISTRY, worldwide value-added patent and non-patent sequence data)

Commercial Databases - Advantages

- “Value-added” data
 - Corrected bibliographic data
 - Enhanced title and abstract
 - Improved classification/indexing
- Sophisticated search, charting and analysis tools
 - Chemical formula / sequence search tools
 - Patent topographical maps
 - Citation analysis
 - Semantic search
- Provide integrated access to multiple sources of patent and non-patent literature (NPL)
- Customer Support



Derwent World Patents Index® (DWPI)

- Bibliography for 43 patent issuing authorities
- Detailed information from 10 authorities
- Enhanced abstracts and titles
- Derwent classification and subject indexing
- Classification codes include reformed IPC, CPC, ICO, NCL, and F-terms
- Patent Assignee Codes (PACO)
- Dates back to 1963

STN

- Cross-content search of patent and non-patent data
- Additional classification and abstracts (DWPI)
- Additional chemistry metadata (MARPAT, CAPlus)
- Chemical structure import and search
- Search index viewer
- Customized search term highlighting in results
- Patent family grouping

Patent Information Searching - Challenges

Challenges

- Amount of Information
 - > 90 million patents published
- Languages
 - Different languages
 - Keywords/synonyms
 - Errors
- Geography
 - Coverage
- Time periods
 - Coverage
- Time and Budget Spent

Coverage : Differences

- Patent collections
 - Which countries or regions?
- Document types
 - Patent applications? Granted patents? More?
- Document elements
 - Bibliographic data? Descriptions? Claims
- Time period
- Languages
 - Multiple language versions? Translations?
- Non-Patent Literature
 - Simultaneous access to scientific and technical journals



Orange Book

Approved Drug Products with Therapeutic Equivalence Evaluations

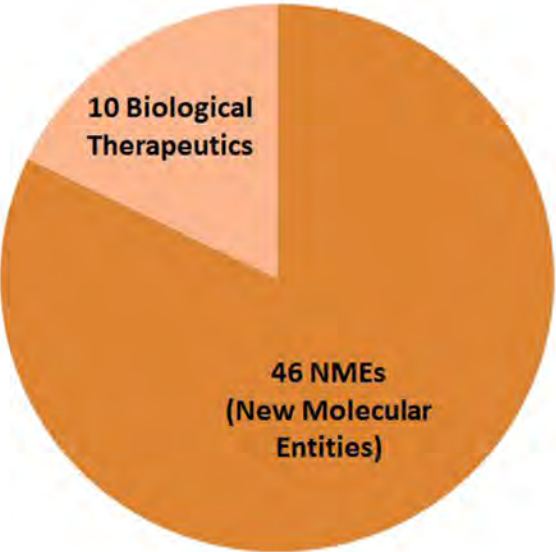
- This publication identifies drug products approved on the basis of safety and effectiveness by the Food and Drug Administration (FDA) under the Federal Food, Drug, and Cosmetic Act (the Act) and related patent and exclusivity information.
 - Search approved drug products by
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 - proprietary name,
 - applicant,
 - application number,
 - dosage form,
 - route of administration or
 - patent number.
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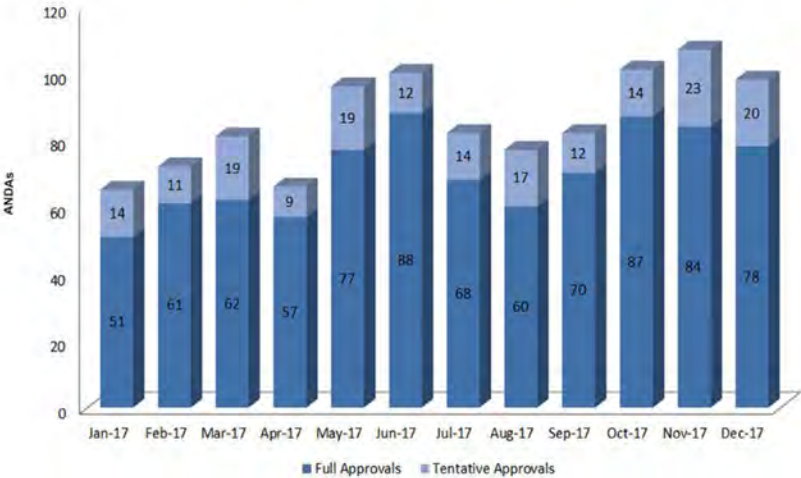
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FDA APPROVED
TOTAL OF 56
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 - Drug Name,
 - Active Ingredient, or
 - Application Number



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Strategy



- What information is needed?
- The state of the art in a research area
 - New literature - technical and patent
 - New substances - sequences, polymers, compounds, ..
- New technology/patent from key competitors
- Status of known patents
 - New family equivalents
 - New granted patents
 - Post issue office actions
 - Patent expiry dates
 - Litigation history
- Those citing our patents

Challenges

- What should be monitored ?
- How often should the sources be checked ?
- Will the same literature be retrieved more than once?
- How much time will this activity consume /
- Can the process be automated ?
- How should the current literature be delivered ?

Current Awareness information is useful only when

- Relevant from a technical perspective
- Current
- Delivered in a meaningful way

Smart Searching

- Use terms and codes from documents already known.
- Extensive citation searching Search for inventors (authors) and companies active in the field
- Display controlled terms, patent classifications and database specific codes of relevant documents
- Add relevant codes and terms to strategies
- Keeping control: do not mix up narrow and broad key terms/codes in “OR” term sets
- Use many different strategies with a low number of key terms/codes to explore the technology step by step
- For multi-featured technology start with strategies focusing on two features at a time and if necessary add additional key terms/codes in a second step if answer sets are too broad
- Start with searches in Titles and Abstracts and depending on precision expand to Claims and further to the Description
- Look in adjacent technical fields (patent classifications) for those features which objectively constitute the characterizing features
- Iterative process: keep the search process interactive by checking retrieved answer sets on the basis of low-cost formats and refine
- Generate a list of synonyms





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