Intellectual Property Office

Knowledge Asset Management Guide

Market analysis using patent data

Guidance on how to use patent data for market research or competitor analysis

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Knowledge Asset Management
IP for Universities

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Contents

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Introduction

Purpose

This resource provides guidance on using patent data for market research or competitor analysis. It may prove particularly useful for institutions such as Small and Medium Enterprises (SMEs), start-ups, university technology transfer offices or academics, and public sector research establishments. By the end of this guide, you will have gained an initial understanding of the patent analysis you can undertake to help you understand the market in your technology area, and the competitors that are operating in the same space. You will also have drafted a search plan to help you undertake a patent search to obtain a group of relevant patents to analyse.

The guide does not provide a patent search strategy or prescriptive market research as there is no "one size fits all" approach. Instead, it will assist you in the first steps of using patent data in the commercialisation process; and you can use the knowledge you gain to inform your decisions on whether to obtain further professional advice[1].

Learning objectives:

1. Identify what to look for when undertaking patent searching.
2. Evaluate the different approaches and tools you can use in patent searching.
3. Perform a simple patent search.
4. Recognise how patent information can be used in market research.

1 We strongly advise you to seek legal advice before applying for a patent as it can be a complex and costly process. A list of Patent Attorneys is available from the Chartered Institute of Patent Attorneys. You can also obtain information from UK PatLib Network . They hold clinics with IP professionals and offer help on a variety of services including patent searching. The IPO also provides online support tools for anyone learning how to manage or use IP.

Background

Market research and competitor intelligence are processes involving collecting and analysing data to help institutions understand various aspects of their market, such as consumer behaviour, industry trends, emerging opportunities and the competitive landscape. By conducting market research, companies can make informed decisions about product development, marketing strategies, and business growth, whilst research institutions can understand how their research fits into the commercial landscape and identify potential partners. This research can be qualitative, involving interviews and focus groups, or quantitative, using surveys and statistical analysis.

In recent years, patent data has become an increasingly important resource to support these efforts, especially in innovation-driven sectors. By analysing patent data, institutions gain unique insights into competitors' Research and Development (R&D) focus, emerging technologies, and innovation trajectories, enabling them to anticipate market shifts and identify whitespace opportunities. Patent data often serves as a proxy for measuring innovation[2], with rates of patenting offering insight into the technical fields that are attracting commercial investment and activity. This guide is aimed at institutions making an early attempt themselves at using patent data for market research or competitor analysis. It is intended to provide some early-stage guidance on how to leverage publicly accessible patent data. It can be used to:

1. Identify competitors and their innovation focus.
2. Spot emerging technologies and gaps in the market.
3. Benchmark R&D activity against competitors.
4. Help assess the commercial value of specific patents.
5. Monitor competitors' technological advancements and IP strategies.
6. Discover licensing and partnership opportunities.
7. Understand the alignment between market trends and R&D/ patenting activity to enhance product development strategies.
8. Support investment decisions and Merger and Acquisition (M&A) activities.
9. Evaluate competing technologies (state of the art) and identify your unique selling points.

2 The Patent Guide-A handbook for analysing and interpreting patent data (Second Edition), UK IPO 2015

Patent analytics

Patent analytics refers to the systematic analysis of patent-related data and employs various techniques (for example, basic data science, text mining, natural language processing (NLP), Artificial Intelligence (AI) and machine learning) to extract meaningful insights from technical, and often incomplete, patent-related data. The data is usually highly complex from both a legal and technological standpoint, necessitating careful analysis to obtain meaningful insights. It involves the in-depth analysis of patent documents, databases and associated information to uncover trends, technological advancements, and areas of innovation within specific industries. Note that this guidance document does not cover any techniques relating to semantic searching, machine learning or AI; but instead aims to cover the basics of patent searching and analysis useful in technology commercialisation.

By leveraging insights derived from patent analytics, institutions can assess the competitive landscape, identify emerging technologies, and make informed decisions regarding research and development, intellectual property protection, and overall innovation strategies. As noted above, there are various professional services that can be procured to provide patent analytics, such as paid for online search tools, consultancies and patent attorney firms. This guide can be used as a first step prior to potentially engaging these paid for services. It aims to give a sufficient grounding in basic patent analytics such that a non-expert user can obtain, understand and interrogate patent data for the purposes of market research and competitor intelligence.

Structure

Throughout this guide you can work through the search plan in the Annex, with actions being signposted at relevant points throughout the guide. Once you've completed your search plan, you can use it to obtain a group of patents you can use as the basis for your market research. The guide will take you through five stages:

1. Understand the technology - Understand the technology in the context of patent law, and with regard to your wider institution's business model.

2. Decide what to search for - Distil the core features that make up your technology and how this interacts with the market in which your technology operates.

3. Decide where and how to search - What are the keywords, classification areas and applicant/assignee name(s) that are relevant to your technology.

4. Undertake the search and iterate - Obtain a group of patents for use in your analysis.

5. Use the data - Identify the analysis that is useful to you.

1. Understanding the technology

This section helps you to identify the parts of your technology that are relevant with respect to patents. Whilst your technology may be cheaper, more efficient or higher performance than your competitor's, these types of commercial advantages typically aren't relevant to patents. Patents deal with technical features3, and and when using patent information for market research or competitor analysis you must be able to explain your technology in terms of these technical features.

This section is approached as if you are interested in a specific type of technology. If your institution develops multiple technologies in different markets, you may wish to repeat this process for each technology separately. To identify relevant technical information about your technology that is useful for patent analytics, you must consider how technical information is presented in patents. The aim in this process is to gather information that will enable you to identify the essential and distinguishing features of your technology. The following questions and prompts are intended to help you collect this information.

1. Write a high-level description

Start by writing a short, general description of your technology. Aim to describe what it is and what it does—without going into too much detail. Then, identify:

- the **core technical field**
- the **type of technology**, for example is it a product, a process, software[4], or a combination of these?

2. Distil the essential features

Now go into more detail. If you're working with a specific product or process, list all its **components, features, or steps.** If you're working with a broader concept or platform, list the **standard features used to enable that technology.**

These questions may help guide your thinking:

- what **problem** does your technology solve?
- what does the technology **do**?
- what **effect** does it have or produce?
- how is it **constructed or implemented**?
- does it only work in specific situations, for instance using certain materials, settings or timings?
- are there any features which particularly overcome the problem being solved and/or accomplish the purpose of the invention?

3 Apply for a patent: Overview - GOV.UK

4 Some matter is excluded and cannot be patented. Only software with a technical purpose can be granted a patent. For more details, see Apply for a patent: Overview - GOV.UK

3. Identify essential and distinguishing features

- Using the step outlined above, think about **which features are essential to make the technology work** or alternatively, what is the **critical matter that distinguishes your technology** from others?
- How do **technical effects of the features you have identified address the problem** and/or accomplish the purpose?
- Are there any **commonly used alternatives** to the features you have identified?
- How has the problem that your technology solves been **overcome in the past?**
- Find any known **competing technologies or similar patents** and identify how your technology is different from these?

4. Business strategy

Although your patent research will focus on technical features, it's also helpful to think about your technology in context of your **business model**. Write down:

- **competitors** that you are aware of
- what you are interested in understanding from your patent searching. For example, **are you looking for information on market trends or competitor intelligence?** This may depend on the stage of technology development you are in (for example, early stage research, developing/testing prototypes, deploying/protecting your technology, scaling/ exploitation), so note this down too.
- any **jurisdictions** you plan to operate in (partner, collaborate, manufacture, use, sell your technology)

The above questions should provide prompts to help you think about the information that is relevant when searching patents. The next section will explain how to decide what to search for.

2. Deciding what to search for

Once you have identified the parts of your technology that are relevant to patents, the next step is deciding what to search for. The activities described below detail how to think about distilling your technology into a set of **essential concepts** that you can use to build a list of keywords and classification areas. These can then be used to generate search queries for searching patent databases.

The search you do must be broad enough to retrieve as many relevant patent documents as possible. Therefore, you need to distil your technology into its essential concepts, then describe each in a broad generic way whilst retaining the 'essence' of your technology. You need to be able to describe the invention in terms of its essential features – what is absolutely necessary for the invention to accomplish its function.

Using the answers from the previous section, write down the essential concepts of your technology. This could include essential features or steps (the critical matter of your technology); or it might be a specific technical field where your invention is applied. The examples below provide some insight into how to do this.

Example 1 - Colour changing cup

Imagine you've developed a new cup that changes colour based on temperature.

A cup comprising a handle, and a body having a heat sensitive colour changing surface.

If you searched for patents having all the features listed above, you would disregard a patent disclosing a cup with a body having heat sensitive colour changing surface, but no handle. The essential concepts that you might list in your search plan might therefore be 'cup' and 'heat sensitive colour changing surface'. When analysing the market for your technology, it is important not to overlook potentially relevant inventions by including features that aren't essential features of the inventive concept of your technology. The aim is to **identify the crucial parts of the invention that cannot be replaced without exercising inventive ingenuity.**

Example 2 - Bib with poppers

Imagine you've developed an infant bib that has an upper apron portion to go around the neck of a child, and a lower trough portion for catching dropped food. The portions are connected with popper fasteners. The portions can be separated for ease of cleaning. Additional poppers are provided on the trough to allow the apron portion to be rolled up and stored inside the trough portion. Now think about which features are essential/crucial to the invention. What is the critical matter to enable this technology. The critical matter is what is supposed to make the alleged invention inventive. In most cases it won't include any trivial or non-essential features.

The essential concepts in this situation might be a 'bib'; 'first apron portion'; 'second trough portion' with the portions being connected with at least one 'releasable fastening'.

When identifying the features you intend to search for you must ensure that they are not too narrow (so that you include all technology that might be relevant to the inventive parts of your innovation) but equally not too broad (so that you can investigate the market directly adjacent to your invention).

You may need to iterate your approach. For instance, it might be that poppers are particularly advantageous, and therefore rather than searching for any 'releasable fastening' (including alternatives like zips or buttons), you wish to focus specifically on poppers. Equally, you may only be interested in the market for children's bibs and wish to limit your search to bibs used by children. In these instances, you might change your essential concepts to 'children's bib'; 'first apron portion'; 'second trough portion' with the 'portions being connected with at least one popper'.

Search plan action: write down the essential concepts of your technology. Make sure these concepts are of appropriate breadth to investigate the section of the market you are interested in. After doing some searching, you may decide to revisit this action and iterate your approach.

3. Deciding where and how to search

In the last section you identified the **essential concepts** of your technology. In the following section you will think about the keywords and synonyms you will use, and the classification areas that are relevant to your essential concepts.

Some patent search engines will use semantic searching whilst others rely on the user to identify keywords. As noted earlier, this guidance does not cover semantic searching.

Keyword searching lets you have better control over what you are searching, but at the cost of having to think about synonyms yourself.

Semantic searching - understanding the context and meaning behind the words and automatically expanding the search terms based on this.

Keyword searching - returns results based solely on exact word matches.

Keywords

It is important to use synonyms when keyword searching because the same idea may be expressed in many different ways. We can find synonyms in several ways, for example: using a thesaurus, reference materials and other patents.

When you look for synonyms of a keyword, you may want to find synonyms that are broader and synonyms that are narrower.

The synonyms you choose will very much depend on the type of technology that you work on. However, common to all technologies is the need to **consider alternative spellings of words**, especially taking into account American English, for example, “aluminium” or “aluminum”.

Example- drinks bottle with straw

Here is a list of synonyms that we could use for the essential concepts “bottle” and “straw”.

Bottle: flask, container, receptacle, vessel

Straw: tube, ~~pipe~~, ~~cylinder~~

Make sure that the synonyms you select are likely to return relevant patents in context of your technology. Although a straw might be pipe or cylinder shaped, drinks bottle patents that mention pipe or cylinder aren’t highly likely to be relevant to a drinks bottle with a straw, and therefore aren’t good keywords in this instance. Tube may not be specific enough, and if using keywords only for your search then you may obtain the most relevant results using straw only. This can then be combined (see section 4) with synonyms of bottle, again noting that the most relevant results will likely be found using keywords such as bottle or flask, as opposed to container, receptacle or vessel.

> **TIP:** you may want to quickly test the relevance and applicability of the keywords you are collecting by doing a quick search using the terms.

Once you have a list of synonyms for your essential concepts, you may need to consider appropriate truncations for your keywords.

Truncations

Keyword searching normally returns results based solely on **exact word matches**, so:

DRILL searches for drill (and nothing else)

DRILLS searches for drills (and nothing else)

DRILLING searches for drilling (and nothing else)

To search for the alternative words and spellings, use truncations (also called wildcards).

Truncations allows you to broaden your search by searching for the "root" of a word to find all its different endings. Different search tools will use different syntax for truncations. Common truncations that are possible in most search tools are listed below, with commonly used syntax of +, ?, # (check which syntax is used in your chosen search tools).

Unlimited Truncation - zero to unlimited characters.
For example, drill+= drill, drills, drilling, drilled etc.

Limited Truncation - zero or one character.
For example, drill?= drill, drills

Masking Truncation - exactly one character.
For example, synthesi#e to cover American and English spellings.

Search plan action: expand keywords and adopt appropriate truncations.

Classification areas

Depending on your technology, you may find that patent classification symbols are more useful than keywords. Patent classification symbols[5] are applied by patent examiners and are groupings based upon the technical features of the invention. They are particularly useful in searching because they allow identification of particular functional features without relying on the specific language used in the patent. Patent classification symbols can be a convenient and effective method of retrieving patent literature on a given subject. Classification systems use a hierarchical structure to organise patents by technology area, allowing for consistent retrieval and analysis across different languages and jurisdictions. Most patents are assigned multiple classification codes to capture various aspects of the invention. For analytical purposes, classification data can provide valuable insight into the technological focus of a patent. The most widely used system is the International Patent Classification (IPC), maintained by WIPO. It is applied globally and forms the foundation for the Cooperative Patent Classification (CPC), a more detailed scheme developed by the EPO and USPTO. When conducting patent analysis, it is important to clearly identify which classification system is being used.

5 Patent classification - GOV.UK

For searching in the UK, we mainly use two related schemes:

System	Full Name	Coverage	Notes
IPC	International Patent Classification	Worldwide	Less detailed, but widely used
CPC	Cooperative Patent Classification	Europe, US and others	More detailed; based on IPC

The IPC system is structured in hierarchical levels, ranging from the most general (section) to the most specific (subgroup). For example:

- **A** – Human Necessities (Section)
    - **A01** – Agriculture (Class)
        - **A01B** – Soil working (Subclass)
            - **A01B1/00** – Hand tools (Main Group)
                - **A01B1/02** – Spades or shovels (Subgroup)

How to find relevant classifications:

- read the classification keys
- check the classifications of relevant patents
- the EPO's Espacenet can identify relevant CPC main groups by performing a statistical analysis
- the EPO's CPC Text Categoriser uses AI to identify potentially relevant classification areas.
- the IPC's Official Catchword Index is an alphabetically ordered list of about 20,000 technical terms/keywords which refer to appropriate classifications.
- patent classification systems provide hierarchical systems, so you may need to search all of the classification areas below the area you have identified. Patent search systems often have searching syntax to do this (the syntax in Espacenet is "/low").

Search plan action: identity classification areas

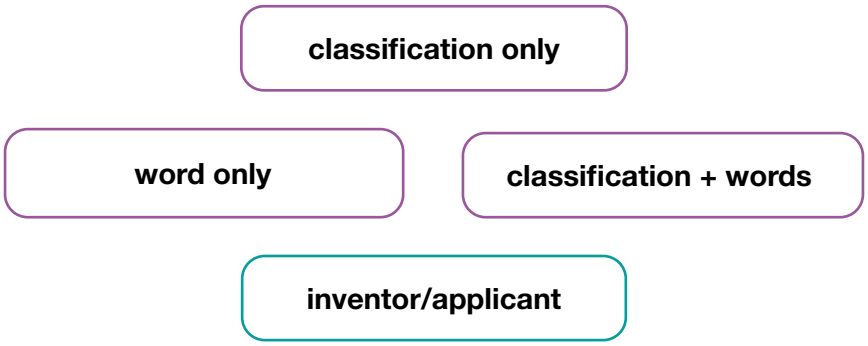
Abstract and description searching

It is possible in most search tools to search either the entire patent document (abstract and description), or to search in abstracts and descriptions separately. Patent abstracts do not contain all the detail in a patent. Generally, they aim to summarise the invention(s) of the patent and identify the most useful parts. This means that details and interrelationships of features may not be included in abstracts. If you are looking for a very specific feature, then searching of both the description and abstract might be more effective.

4. Undertaking the search and iterating

The previous section discussed expanding synonyms and using truncations with these synonyms. You also learnt about classification areas and how to find the ones that are most relevant for your search. This section will focus on how to combine these approaches to obtain a group of patents that is relevant to your market research. The number of patents that you are aiming to obtain in your search will vary by technology areas, but you should always try and ensure that the number you use is statistically relevant. Typically, patent analytics is undertaken on hundreds or thousands of patents.

How will you structure your search?



Boolean operators

Keywords can be combined using so-called “Boolean operators”. The simplest, and usually most effective, of these are:

- AND requires all the specified terms to be present in a patent
- OR requires any of the specified terms to be present, or a combination thereof, or all the terms

A AND B **A OR B**

In your search concepts table you may want to:

- ‘or’ together synonyms covering the same search concept (Concept 1 Synonym X OR Concept 1 Synonym Y) so, for our drinks bottle example: (bottle? OR flask? OR container? OR receptacle? OR vessel?)

- ‘and’ together adjacent search concepts that must both be present (Concept 1 synonyms AND Concept 2 synonyms) so, for our drinks bottle example: (bottle? OR flask? OR container? OR receptacle? OR vessel?) AND (straw? OR tube?)

TIP: remember to use appropriate truncations- in the example above ‘?’ has been used to represent the Limited Truncation

Proximity operators

Proximity operators can be used to combine keywords and specify that they must appear near to each other, not just anywhere in the document. In some instances, proximity operators can be used to ensure they appear in a specific order. This can be useful to make your searching more precise.

Joint operators can be used to search for records where the specified terms are adjacent or joined together. For example, to find multicoloured, multi coloured and multi-coloured.

The specific expressions used to represent the tools described above may vary from one patent databases to another. You can refer to documentation available for each patent databases to determine which exact expressions to use.

Example

If you were looking for a saxophone reed using proximity operators, you could use the following options:

1. **‘saxophone’ followed directly by ‘reed’ (finds “saxophone reed” only)**
2. **‘saxophone’ within a certain number of words of ‘reed’ (for example, saxophone with 3 words of reed finds “saxophone reed” and “The reed of the saxophone”)**
3. **‘saxophone’ AND ‘reed’ (finds documents with saxophone and reed in them)**

Option 2 would likely be the best in this instance, as it would find the documents most relevant to a saxophone reed for example, not just documents that specify “a saxophone reed” but also ones that specify “a reed for a saxophone”. Option 3 would return the most documents but would include any documents mentioning a saxophone and a reed, which do not necessarily relate to the saxophone reed itself.

Classification

As noted earlier, patent documents are individually classified according to their technology group. Classification systems are independent of language and terminology and are assigned by patent examiners. As a result, searching patent documents by patent classification can help overcome some of the pitfalls of searching by keywords alone. For example, it can be helpful when the same terminology is used in different technology fields. In our earlier example of an infant bib with portions connected with popper fasteners, using a classification area might help distinguish between infant bibs and adult sports bibs, for instance.

Classification and words

Using a combination of keywords with classification codes (combining them using 'AND') is often the most effective way of searching. However, it is important to use appropriate words alongside the classification area – don't use words already covered by the classification.

Example:

Using our earlier example of an infant bib with portions connected with popper fasteners, the most relevant classification area for bibs is A41B13/10 (bibs). If we were to search in this area, using the word 'bib' would remove any patents where a bib was disclosed, but the text doesn't contain the word bib (perhaps due to translation errors or use of synonyms for bib). We should therefore look to search features not covered by the classification term- perhaps focusing on the fasteners in this instance, for example, A41B13/10 AND (synonyms for poppers).

Search plan action: plan how to combine the keywords and classification areas.

Applicant/assignee or inventor name

Information on the patenting activities of specific individuals, companies or organisations may be obtained quickly by searching patent documents according to their names. The same techniques as described in the section on searching by keywords can be used for this purpose (keywords with appropriate truncations and proximity operators). Note that there can be variations in the applicant/assignee names used on a patent and this is explored further in section 5.

Search plan action: identify any other patent information of interest, such as competitor or inventor names.

Patent families

A patent family is a group of patents covering the same/similar inventions and related to each other through a priority application[6]. Families are used in patent analysis to identify single inventions or to group closely related inventions together to avoid double counting of patent publications. For instance, if a patent family was made up of patents in five jurisdictions, it is normally counted only once, not five times. However, there are multiple definitions of a patent family. Simple families consider a group of patent applications for the same invention, and for this reason are the most commonly used when counting the number of patent families.

Note: normally you should ensure that you only count a patent family once when searching, although occasionally it might be helpful to count patents (instead of patent families).

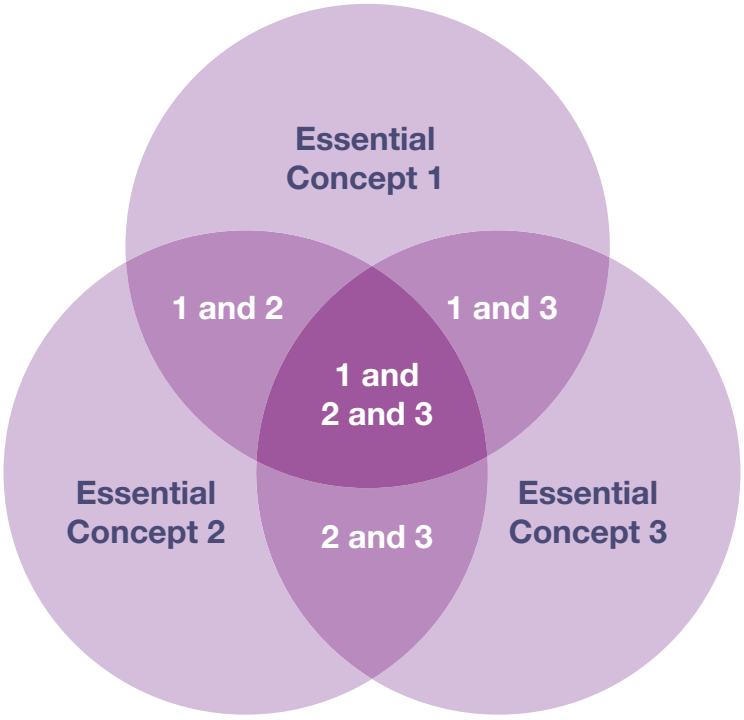
6 The Patent Guide-A handbook for analysing and interpreting patent data (Second Edition), UK IPO, 2015 (see page 17)

Combinations

You should now have filled out the keywords and relevant classification areas in your search plan, and considered whether some classification areas map directly onto the essential concepts you have noted down- or whether you need to use keywords alongside your classification areas. Where the classification areas you have noted don't match directly onto your essential concepts, you may already have thought about using AND to combine keywords from one essential concept, with classification areas from another.

Once the search plan has taken shape, you can consider combining different concepts together. If the classification areas and keywords of an essential concept all equate to each other well, you can consider combining different concepts together, as shown in the diagram below. In our bib example, we may use A41B13/10 OR bib? We would then look to combine this with another essential concept using AND. In the case of the bib example, this could be the fasteners essential concept, so we would have a search string of (A41B13/10 OR bib?) AND (synonyms for poppers). This combination of essential concepts leads to documents in an area of potential interest.

Note: in the example, it is not necessarily the case that all patents mentioning 'bib' and synonyms for poppers would be of interest for our market research. Care should be taken, perhaps by reviewing the patents you have retrieved, to ensure that the patents your search has returned are relevant for your market research, and adjusting your search strategy accordingly.



Where to search

There are free public resources available for patent searching, for example:

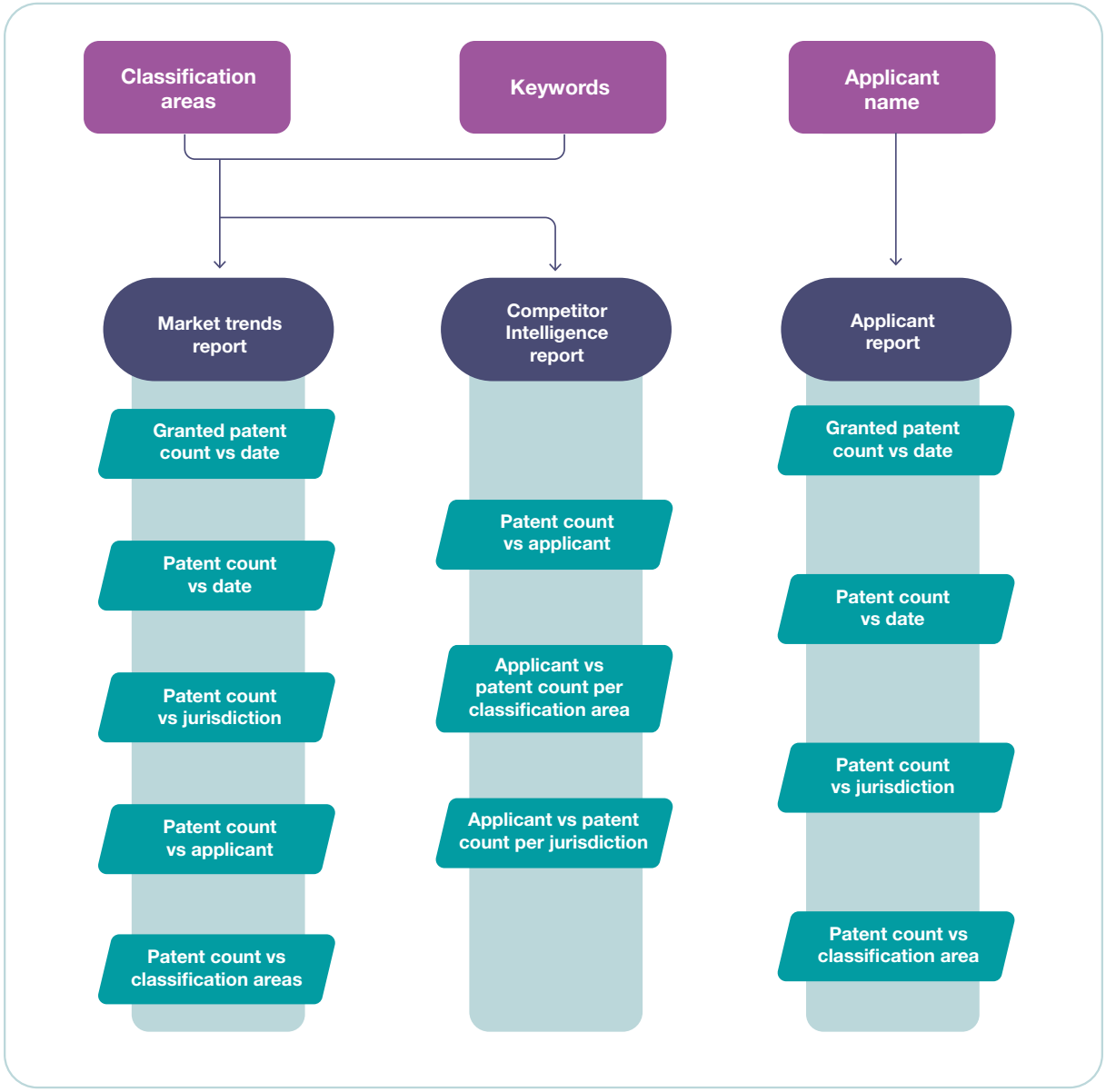
- One IPO Search - operated by the UK Intellectual Property Office
- Espacenet database - operated by the European Patent Office
- Patentscope - operated by the World Intellectual Property Organization

These tools can help you find a group of relevant patents to analyse. An introduction on how to approach this analysis is provided in the next section.

Search plan action: you should now have completed your search plan. Remember to iterate your search to adjust the number and relevance of the patents you find. To undertake your data analysis, you are aiming to get a group of patents consisting of at least tens of patents, normally hundreds or thousands.

5. Using the data

Once you've run your search and gathered a group of patents to analyse, the next step is to think about which types of analysis will support your research objectives. This guide helps you use patent data to discover **market trends** or **competitor intelligence**, and the graphic below illustrates some of the analysis you might do to generate these reports. If you have a single applicant who you wish to research, you can also use similar analysis to produce an applicant report.



The following sections set out some of the considerations you need to make before attempting this analysis. Further information can also be obtained from the WIPO Guide to Using Patent Information (2021), WIPO Patent Analytics Handbook (2022) and The UK IPO Patent Guide-A handbook for analysing and interpreting patent data (2015).

Number of granted patents

If patent filing occurs without alignment with the overall business strategy it may result in the patent not being pursued to grant. Looking at the number of families that include at least one application that is granted can be a useful way to focus your research on patents that matter to an organisation. Granted patents are usually considered to be a better indicator of the quality of the patents because only patents fulfilling all the requirements of patentability will effectively be granted.

> **Tip:** Kind Codes appear as letter and number combinations at the end of a patent number and describe the type of document and its publication level. The kind code used varies by jurisdiction, but generally at first publication it will comprise an 'A', whilst at grant stage it will comprise a 'B'.

Classification area

Classification areas[7] can be used to map key trends across different fields of technology. The classification codes represent predefined concepts for describing the technical features or attributes associated with an invention. For example, in the classification example in section 2, we looked at the classification scheme A01B (soil working).

A	-	Human Necessity	Section
A01	-	Agriculture	Class
A01B	-	Soil working etc.	Subclass
A01B1/00	-	Hand tools	Main Group
A01B1/02	-	Spades or shovels	Sub Group

Often lower level classification areas (for example, sub groups) have a very narrow scope to facilitate focused prior art searches. For a broader analysis (for example, of trends in wider areas of technology) documents classified in a range of classifications may need to be aggregated, or a higher level classification could be used (for example, subclasses). It should also be noted that patent documents often have multiple classification codes assigned.

> **Note:** if you have identified a group of patents and are looking to plot the number of patents in different classification areas within this group- be careful that your original searching does not bias too strongly towards a certain classification area. For instance, if you searched only for A01B1/02 (Spades or shovels), and then plotted number of patents against the different classification areas, then this would obviously bias your results strongly to A01B1/02.

7 Patent classification - GOV.UK

Jurisdiction

As noted above, a patent family consists of a group of related patents which will often provide protection in a number of different jurisdictions. It can be useful to understand where competitors are applying for patents, or what the most common countries for patent applications are in your technology space. Equally, the size of a patent family can be an indicator of the importance of an underlying invention to the applicant[8]. This can give an indication of markets that might be of interest for your technology.

> **Tip:** the two letter country code at the start of a patent number (e.g GBXXXXXXX) tell us where a document is filed and published. It can be useful to look at the jurisdictional coverage relevant to the markets you wish to work in, manufacture, use or sell your technology.

Applicants/assignees

When identifying competitors, it can be useful to look at the applicant (or assignee) of a patent, which generally represents the owner of the patent. However, applicant and assignee names can change when patent rights are transferred. Additionally, names may be misspelled or abbreviated, and subsidiaries of companies often use different names in various countries. This can make it difficult to present an absolute value for the number of patents for a certain company. However, you may be able to look at the number of patents assigned to each company and use this to at least estimate the top filers in your technology field. Some commercial patent databases will also combine data on patents and company structure to help mitigate this issue.

> **Tip:** if searching for a specific applicant/assignee, you can use the truncations and proximity operators discussed above to obtain the majority of a company's patents. The aim here is to ensure your search covers as many different spellings/ abbreviations of a certain company's name, without getting results from other companies with a similar name.

Date

Dates correspond to the timing of significant events in the lifecycle of a patent application. The three most significant patent related dates are the priority, the filing and the publication dates. Studying filing[9] or priority[10] dates provide an indication of when inventions were developed[11]. Often the earliest priority date is the date that is closest to the investment in research and development, and potentially the most important in analysing market trends[12].

8 The WIPO Patent Analytics Handbook WIPO (2022) section 4.6

9 Filing date - Date of submitting an individual patent application at a particular patent office

10 Priority date - Date of the first filing from which the one-year priority period for further applications starts

11 Guidelines for Preparing Patent Landscape Reports, WIPO (2015) Section 4.3.1.3

12 The WIPO Manual on Open Source Patent Analytics (2nd edition) (2022) Section 5.4.2

Summary

This guide was written to help use patent data in the commercialisation process. You should now have a search plan with the essential concepts of your technology, and some candidates for keywords, classification areas, and how to combine them. You should also have some ideas for the types of patent analysis that would be useful during your market research or competitor analysis. There are a number of search platforms that can now be used for implementing your search, and others that can be used for cleaning and analysis of the patent data you have collected. Finally, please note that obtaining a patent can be a complex and costly process, and so it is strongly advised that you to seek legal advice before applying for a patent. Equally, it may be valuable to procure professional services to supplement or support your conclusions when undertaking patent analytics.

Annex - Search plan tool

Essential Concepts	Concept 1	Concept 2	Concept 3
Keywords			
Classification areas			
Combinations			

Below there is an example to illustrate how you might think about filling out your search plan. It is based on the 'Bib with poppers' example discussed in sections 2 and 4. Here we discussed an infant bib that has an upper apron portion to go around the neck of a child, and a lower trough portion for catching dropped food. The portions are connected with popper fasteners and can be separated for ease of cleaning.

In section 2 it was noted that you might need to iterate your search plan as you begin searching and understand the technology area in more depth. The notes below illustrate some of the considerations you might need to make during your market research, depending on which features of the technology you are interested in. It is not intended to be a prescriptive method of searching for the above example.

It might be that poppers are particularly advantageous, and therefore rather than searching for different types of 'releasable fastening' (including alternatives like zips or buttons), a patent searcher focuses specifically on poppers.

A patent searcher may wish to focus on children's bibs only, and therefore also use keywords such as child+, baby, babies, infant? for this concept

The releasable fastening in the example is located between the trough and apron portions. However, fastenings are also used to attach the bib around the neck. The location of the fastenings may be important to the market research and, if so, an essential concept based on **the fastenings being between the apron and trough** portions might be included. However, the market research may just focus on any bib with releasable fastenings, and in this instance the location of the fastenings is of less importance.

Essential Concepts	Bib	Releasable fastening	Trough portion	Apron portion
Keywords	Bib?	Popper? OR Zip? OR Button?		
Classification areas	A41B13/10			
Combinations	A41B13/10/ LOW OR bib?	A41B13/10 AND (popper? OR zip? OR button?)		

This classification area is for infant bibs. It is important to think about using the right syntax for classification areas, set out in section 3.

A patent searcher may also use '(A41B13/10/LOW OR bib?) AND (popper? OR zip? OR button?)', whilst keeping in mind that the classification area relates to **infant** bibs and the keyword 'bib?' may retrieve results relating to adult bibs as well.

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