Robotics Patent Insights Report: The Last Five Years

2025/03/11

patsnap

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Data Range

Searched from 172 authorities and found 351,006 INPADOC families

Dataset

Keywords/Query: TAC_ALL:(("機器人" or "Robots" or "Robotic" or "Industrial Robot" or "Medical Robot" or "Humanoid Robot" or "Automaton") OR ("機器人" or "Robots" or "Robotic" or "Sensors" or "Actuators" or "Control System" or "Programming")) AND TAC_ALL:(("人工智慧" or "artificial intelligence") OR ("自動化" or "Machine Learning") OR "機械學習" OR "感測器" OR ("機械臂" or "Mechanical arm" or "Robotic arm")) AND PBD:[20190301 TO 20241231]

Analysis Preferences

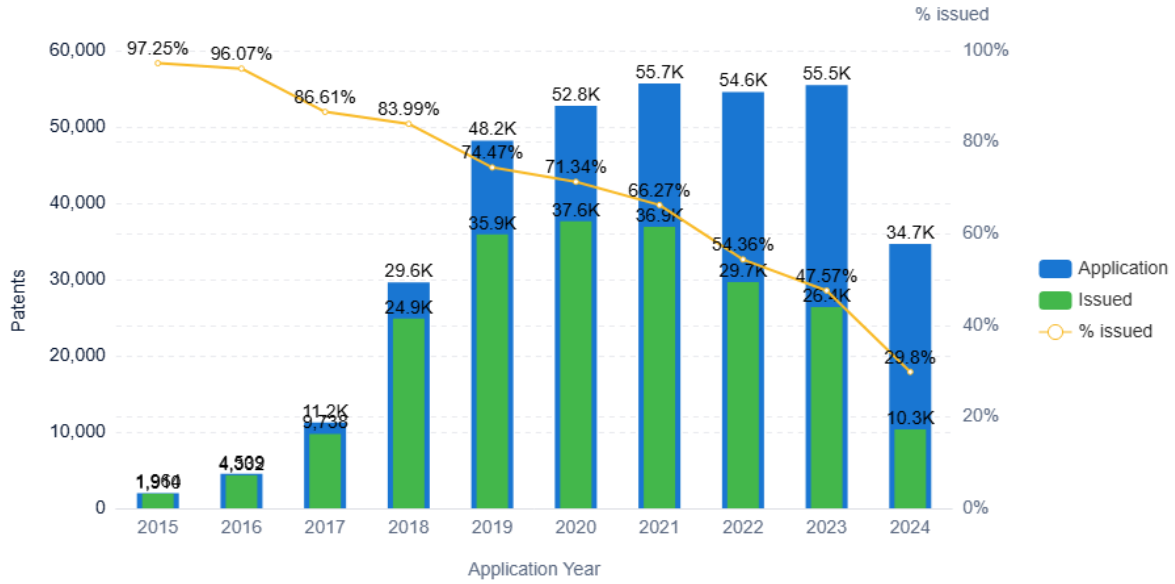
Data Grouping: One representative per INPADOC family

Stemming: On

Innovation Profile

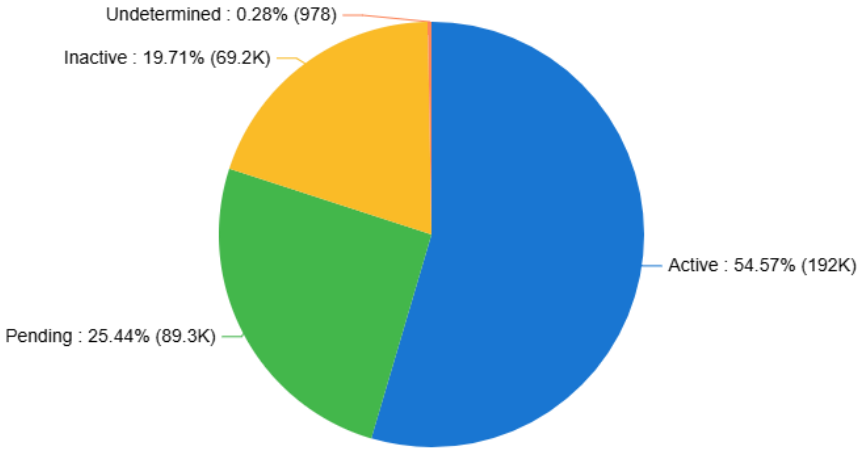
Application and Issued Trend

Analyze the annual application trend of the technology. This chart shows the number of grants or issued patents resulting from applications filed in the same year. This is helpful for understanding the rate of applications over a period of time, whether the technology is recent, or whether it is heading towards stagnancy. The grant rate is useful to understand the date from which the technology protection is established and the rate of successful applications over a period of time. Blue represents the application trend and green represents the trend of issued patents resulting from applications of the same year. Example: if a 2012 patent application is issued in 2014, the issued patents will appear in 2012 in green.



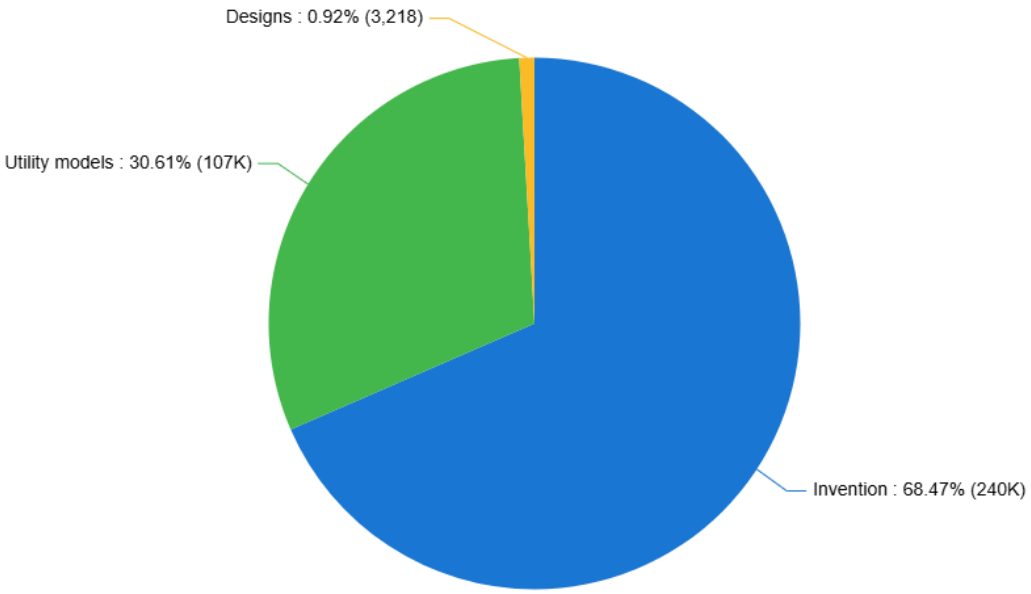
Simple Legal Status

Simple legal status breakdown of the technology field. This tells you the proportion of patents in the technology space that are in effect, or no longer active, which you can then use to filter by.



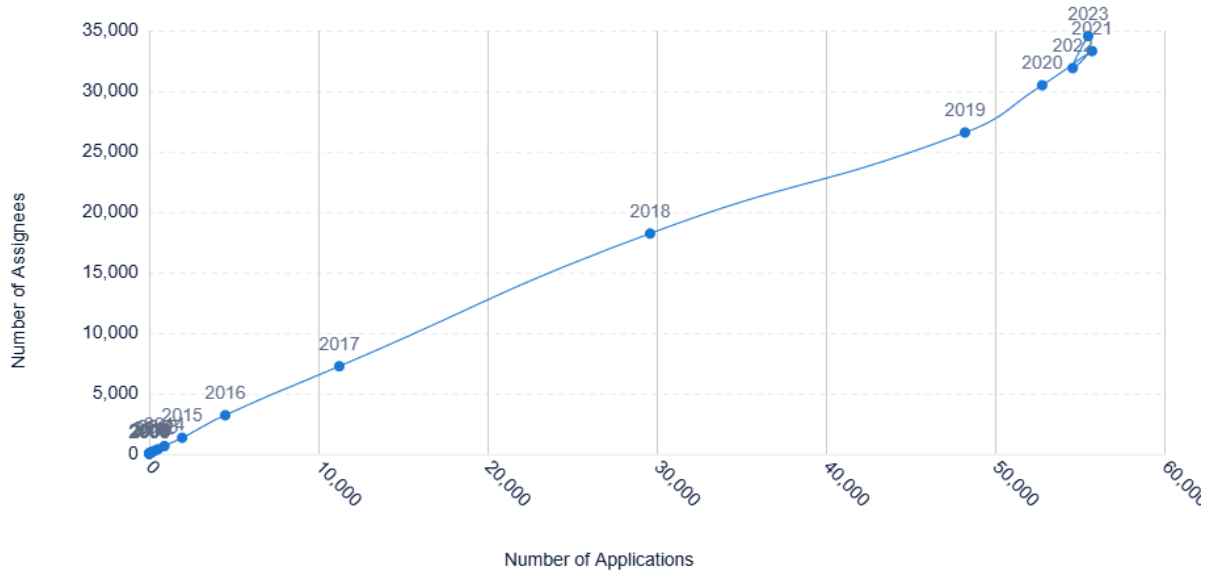
Patent Type

Patent type breakdown gives an indication of the focus of the organisations operating in this technology space, whether they are protecting the function (invention, utility models) or the appearance (designs) of their inventions.



Technology Life Cycle

Analyze the change in number of applications and patent applicants over time to understand the life cycle of the technology space. This graph may indicate at what stage the technology is in as well as its history. Whether it is wise or suitable to invest, or if the technology is in a state of decline.

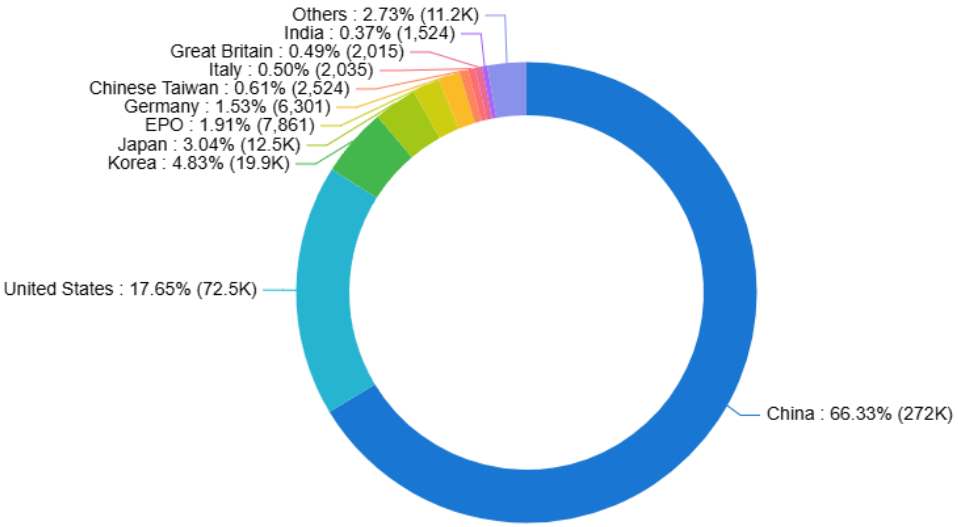


Geographic Territories

Top Countries of Origin

This shows the countries in which the earliest application was filed to show the geographic source of the technology. This helps users assess the innovation capability of a country and can either indicate where a majority of organisations are based, or which countries companies want to first capitalise in. (Jurisdiction is considered in the below analysis.)

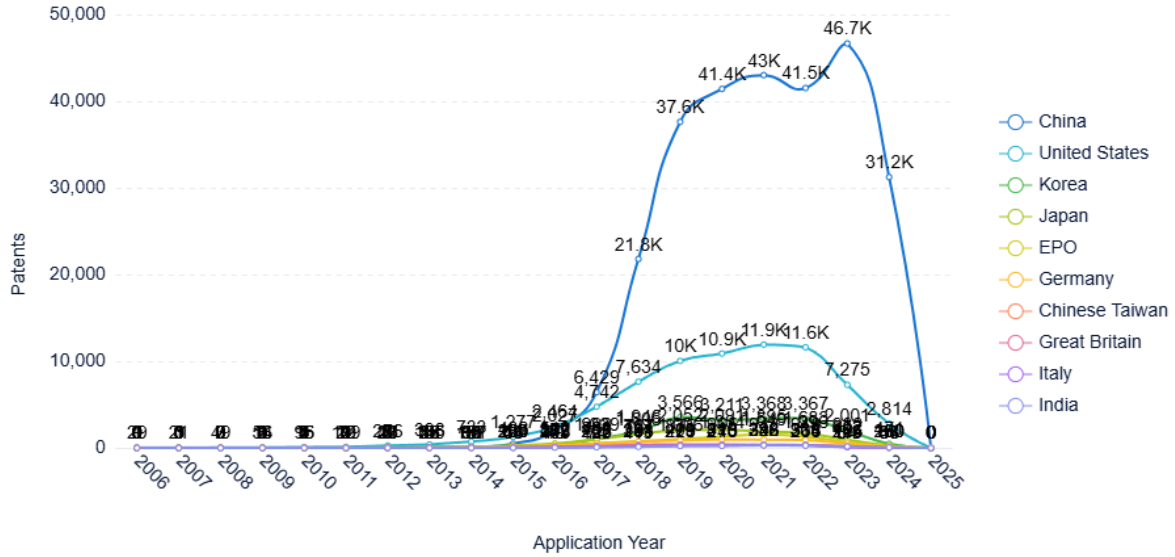
The chart displays one document per application and is calculated using the latest publication.



Application Trend in Countries of Origin

Yearly trend of earliest applications in the technology field, within the top countries of origin. This shows the change in focus in different countries of origin for the searched technology space. It helps you understand whether the focus or country of origin of the technology has changed over time. (Jurisdiction is considered in the below analysis.)

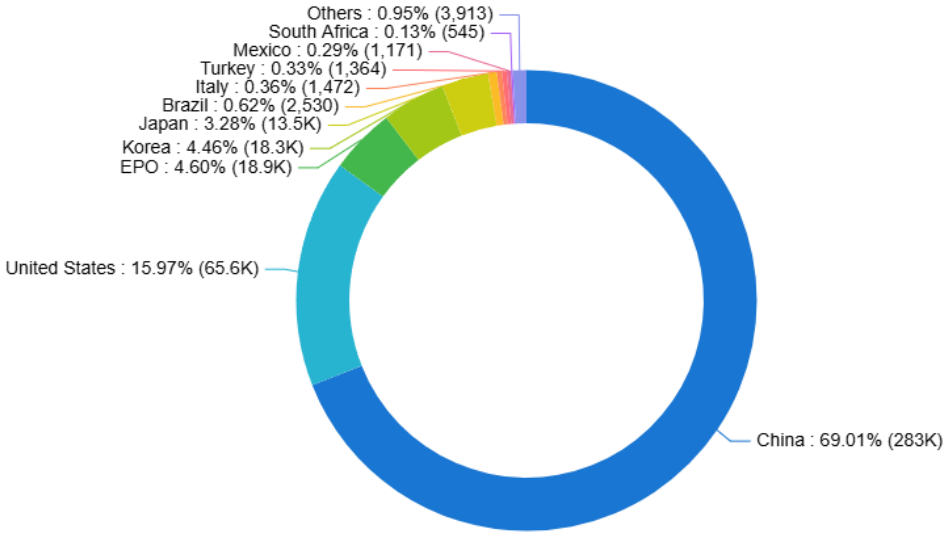
The chart displays one document per application and is calculated using the latest publication.



Top Countries

Shows the geographic coverage of where patent applications have been filed. This gives an indication of the targeted geographic markets the technology is most prominent and commercialized in. This is useful for companies to plan their filing strategy – ensuring their portfolio covers the top jurisdictions making them an attractive acquisition target. It may also help you identify untapped markets for this technology.(Jurisdiction is considered in the below analysis.)

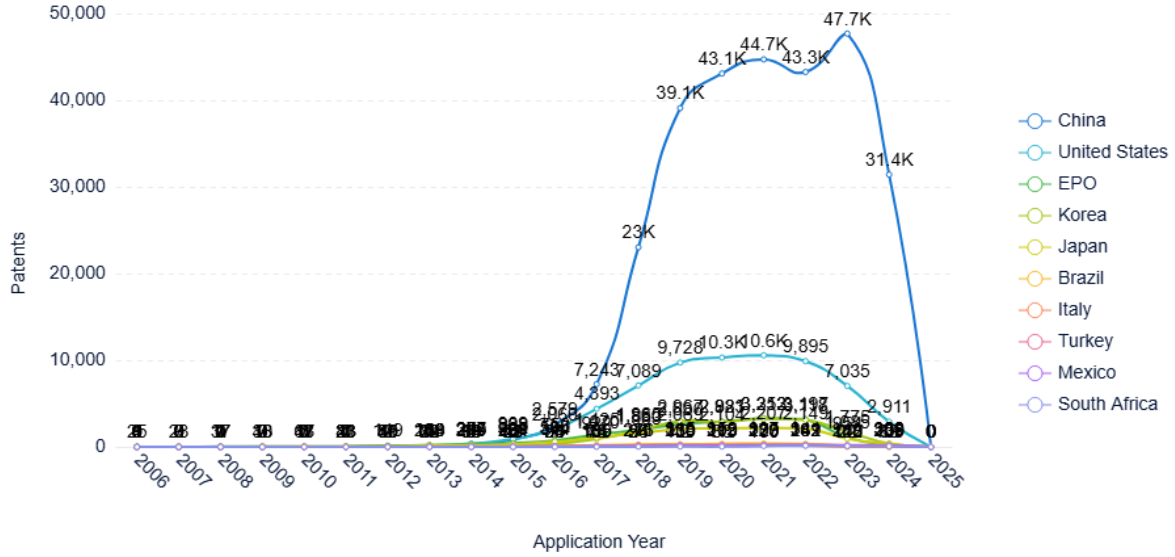
The chart displays one document per application and is calculated using the latest publication.



Application Trend in Top Countries

Yearly application trend of the Top Countries within the technology field. This gives an indication of the geographical markets targeted by the technology field and how direction changes over time, to help you identify patenting trends and shifts in markets. (Jurisdiction is considered in the below analysis.)

The chart displays one document per application and is calculated using the latest publication.



IP5 Territory Distribution

Analyse the origin and protection of the technology field in IP5 (EP, CN, JP, KR, US). This gives a picture of which country, out of the top 5 largest intellectual property offices, the technology field originates from and is more heavily protected in. This helps you to understand if organisations are typically protecting their invention in their own market or extending this to more profitable markets elsewhere.

The chart displays one document per application and is calculated using the latest publication.

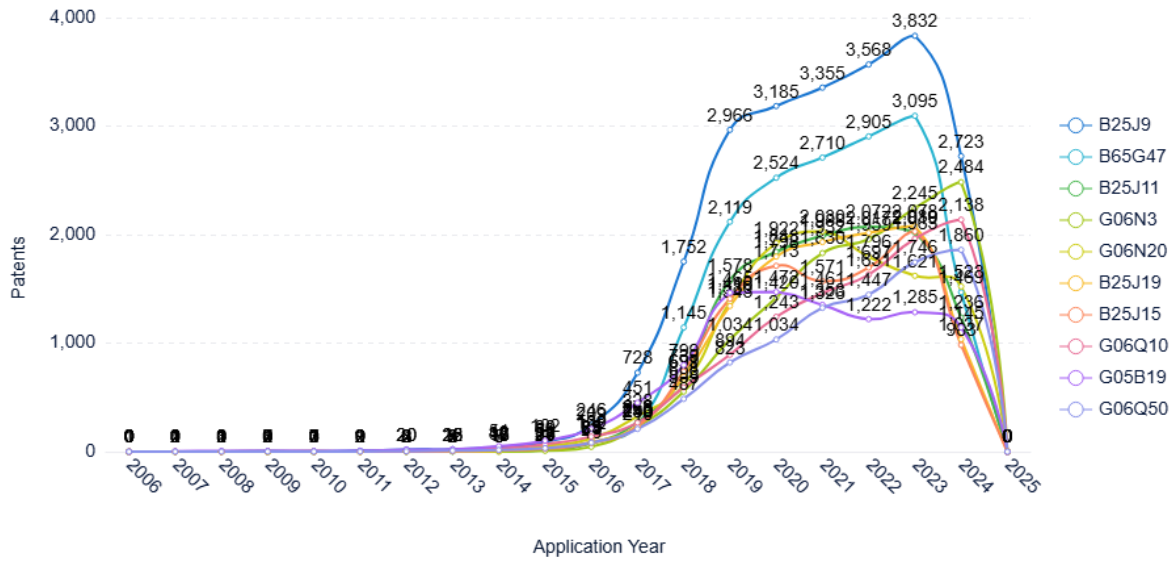
Key Technologies

Key Technologies

Visualise the major technology areas to understand alternative applications of the technology and find potential opportunities for licensing and white space.

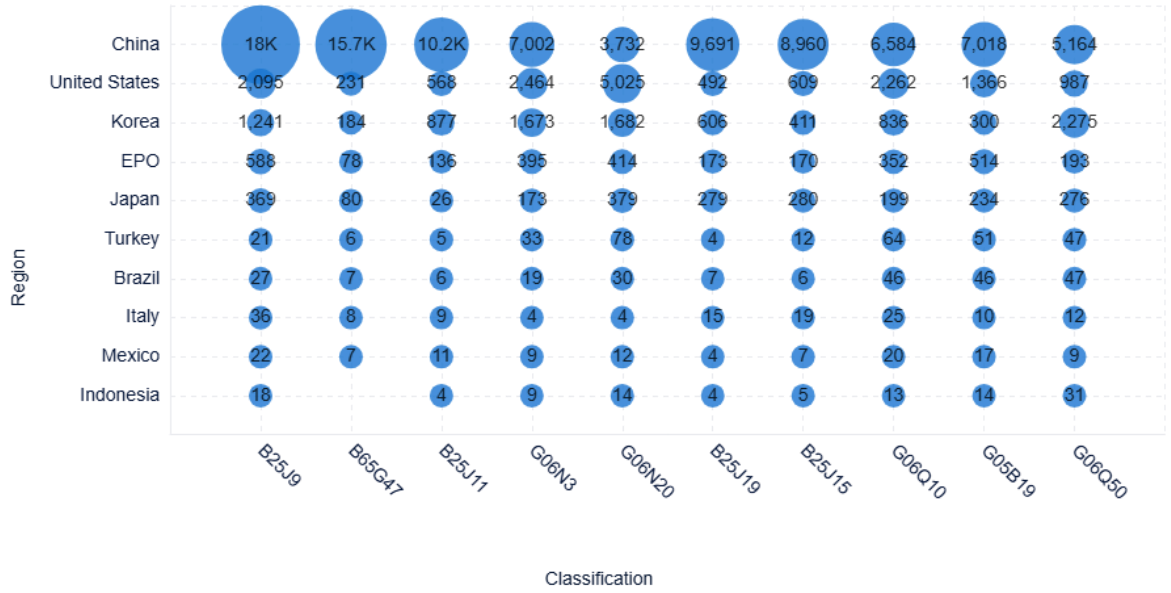
Application Trend of Key Technologies

Yearly application trend of the major technology areas. Understand how investment into different technologies has changed over time.



Geographic Distribution of Key Technologies

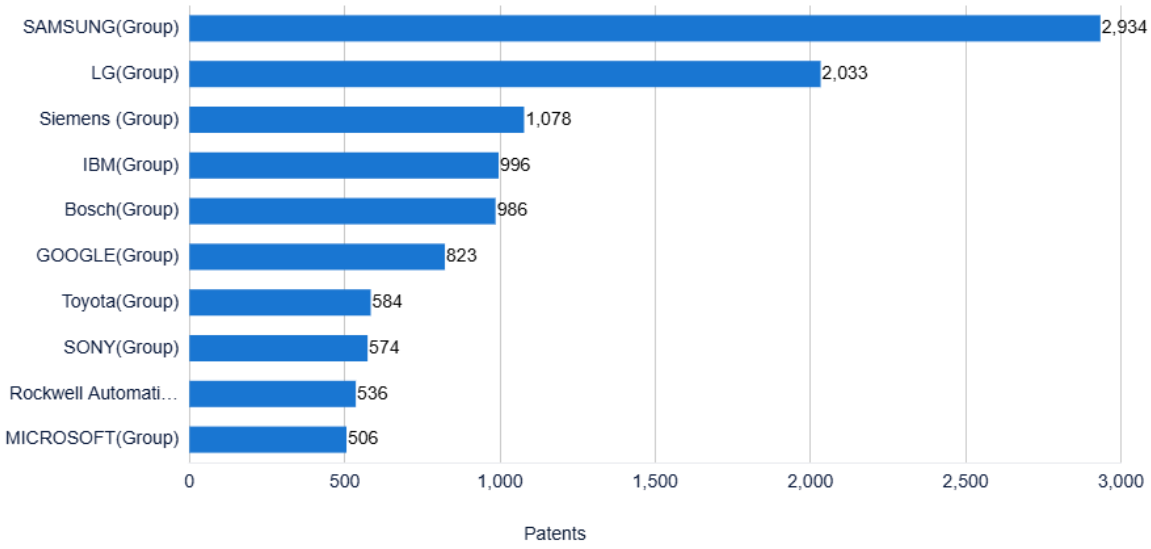
Understand the top targeted markets by analyzing the distribution of key technologies across the top 10 countries/regions. This can help you identify top markets for commercialisation and the commercial potential of different countries. (Jurisdiction is considered in the below analysis.)



Assignee Analysis

Top Assignees

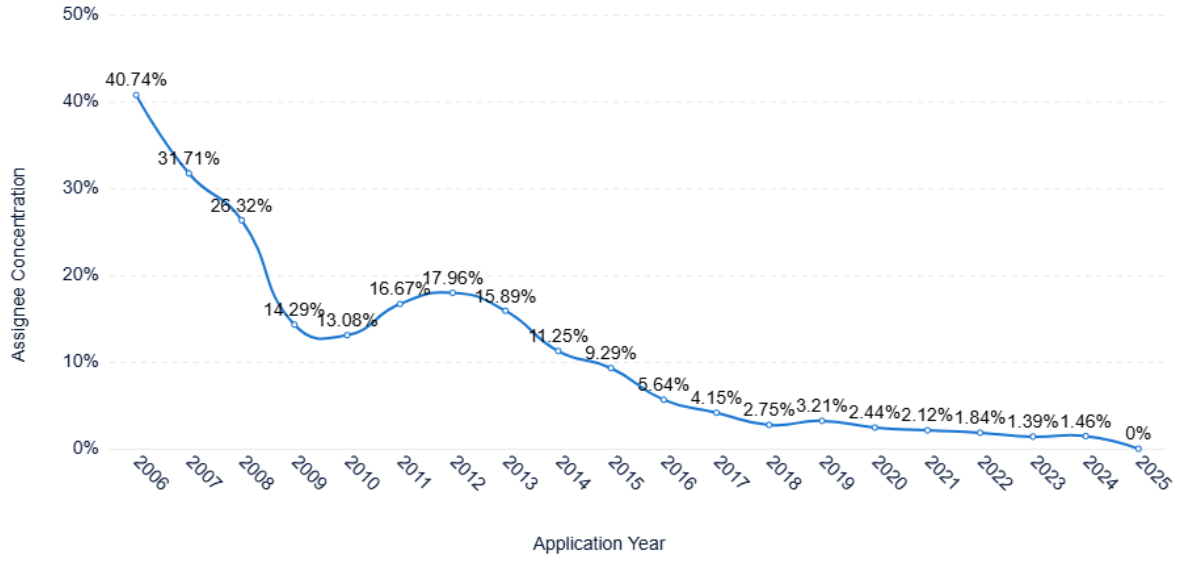
The top companies with the largest patent portfolios in the technology field. Understand who are the largest players and the competitive threats in the technology space.



Assignee Concentration

Analyze the market share the top companies in the technology field possess, helping to assess the level of competition and any monopolization in the technology field over a period of time.

Definition of market share: The ratio of the number of applications of the top 10 assignees to the total number of applications. (Where there are joint assignees, the application will be considered multiple times).



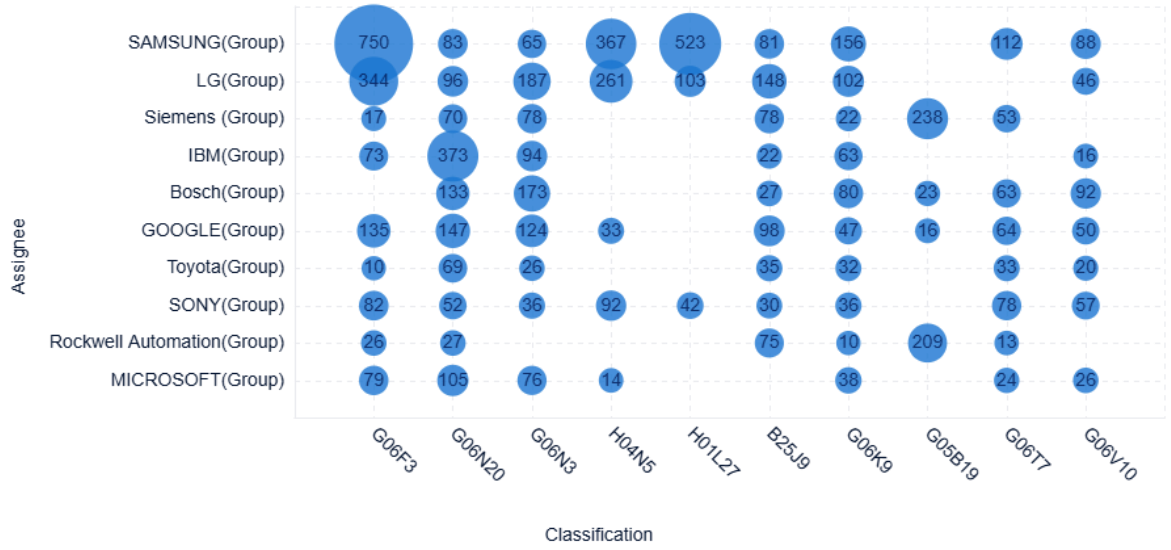
Assignee Relationships

Analyze relationships between assignees involved in the development of an invention. This is useful to understand which assignees are more open to forming partnerships and where licensing opportunities may exist.

The chart is calculated using Applicants (Original Standardized Assignee). Applicant names cannot be edited or merged.

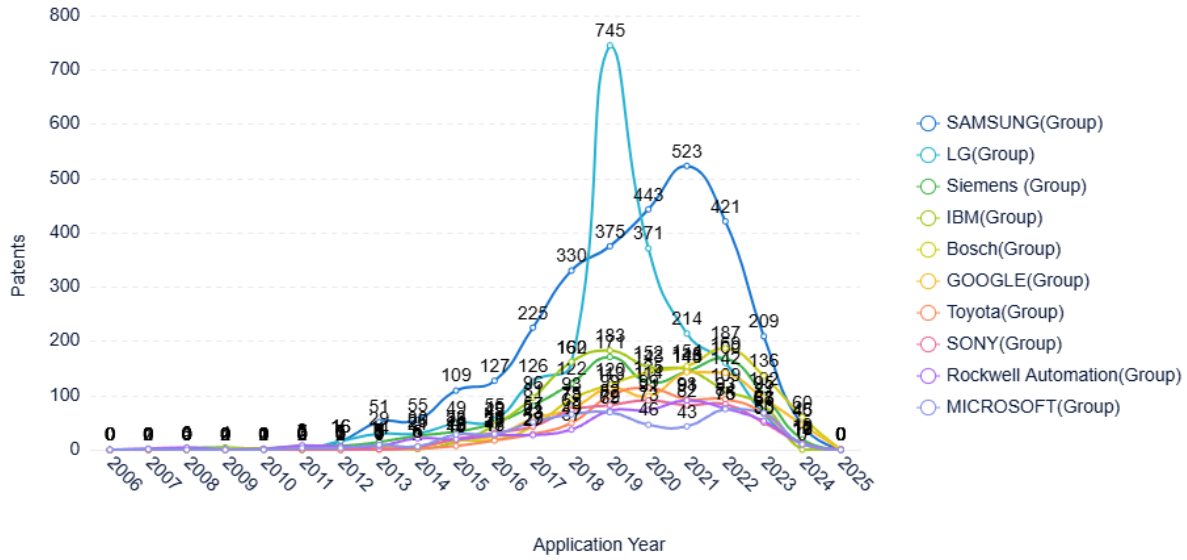
Technology focus of Top Assignees

Analyze the technology focus of the top assignees. Visualise the presence of organisations in different technology classifications, as well as the variance of technology in their portfolio. It helps you understand current investment in various technology fields, which allows you to identify licensing opportunities and partnerships.



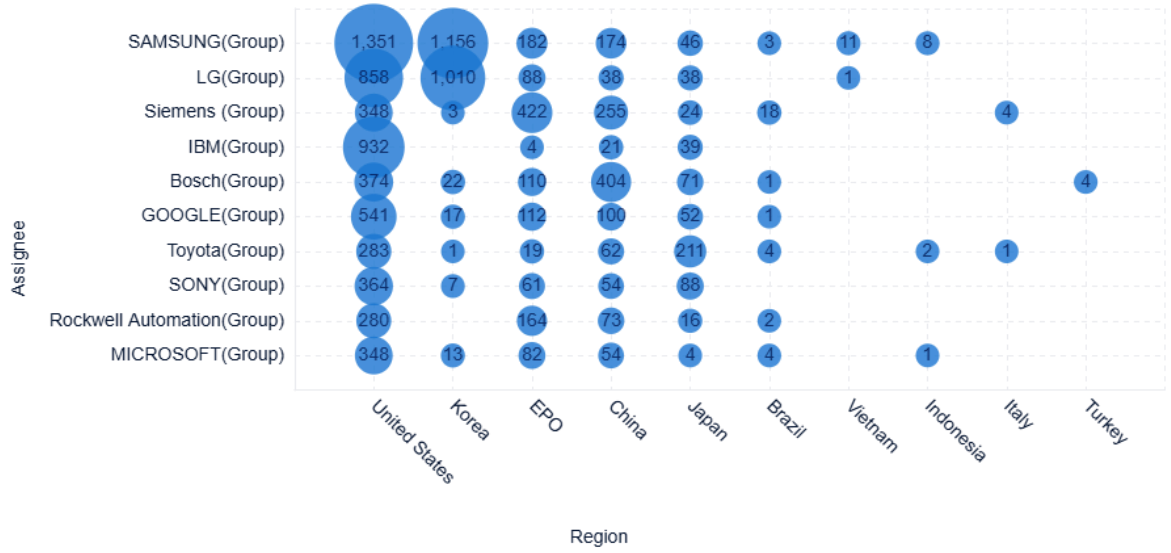
Application Trend of Top Assignees

Yearly application trend of top assignees show the change in patenting activity and investment by the top companies in the technology space over a period of time.



Geographic Distribution of Top Assignees

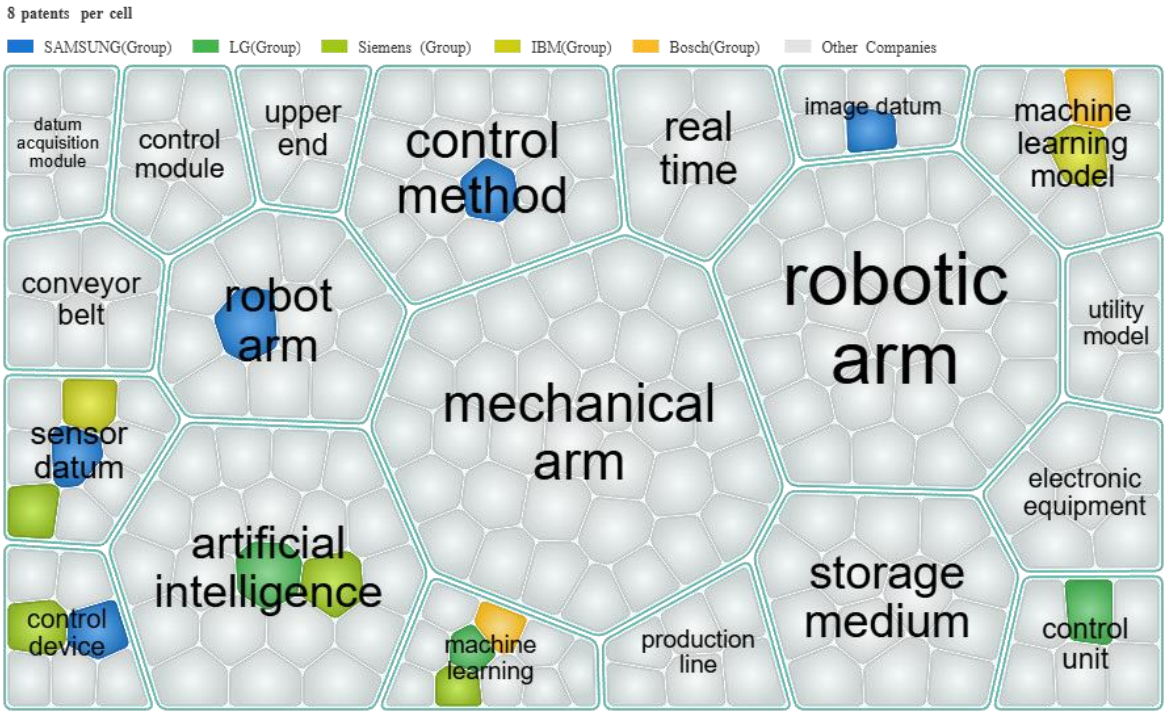
This chart shows the geographic distribution of top assignees. This helps you to understand if companies are competing in similar geographies or if their targeted markets are different. (Jurisdiction is considered in the below analysis.)



Cell Diagram

The cell diagram shows the keywords and phrases of the records owned by the top current assignees in the technology field. This is helpful for providing a deeper understanding of the concepts within the defined technology and the assignees that are working on those concepts. It helps you differentiate the technological focus of each of the top current assignees.

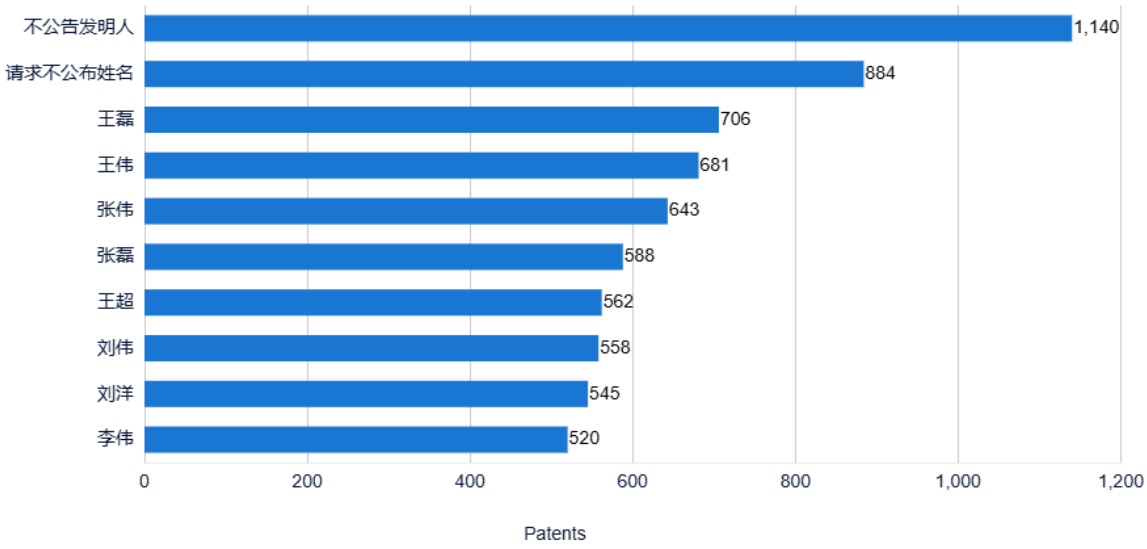
Keywords are calculated using the latest 5,000 patents. The relative coverage is represented by the number of cells under each assignees, with each cell representing the same number of patents.



Inventor Analysis

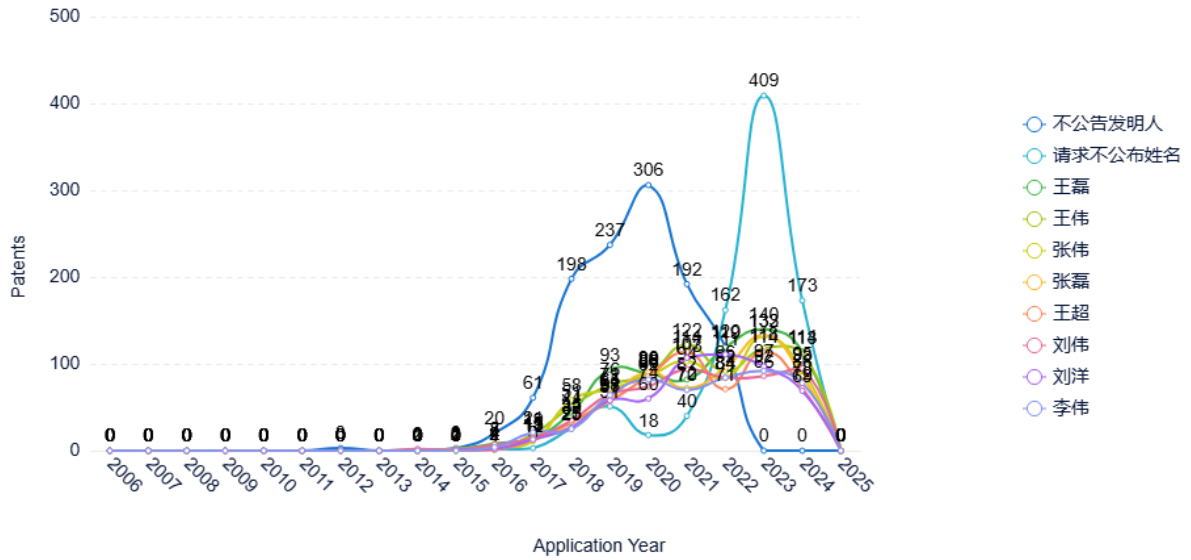
Top Inventors

The graph shows the top inventors in the technology field. This information is useful for evaluating the work of top performers in a specific technology field or for recruiting inventors.



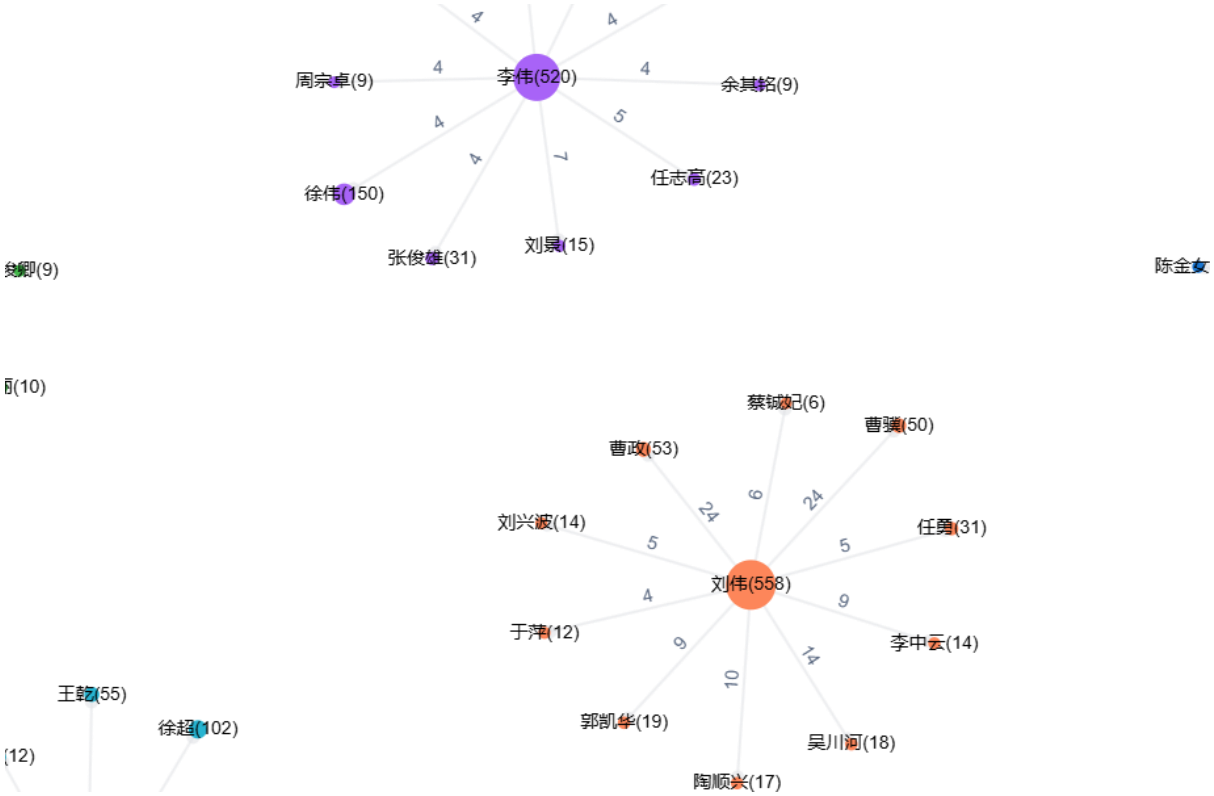
Application Trend of Inventors

Yearly application trend of top inventors can help you identify inventors with the highest patenting activity in the most recent years. This identifies emerging or existing talent in the technology field, and you may also identify the inventing cadence of certain inventors.



Analyze inventor partnerships

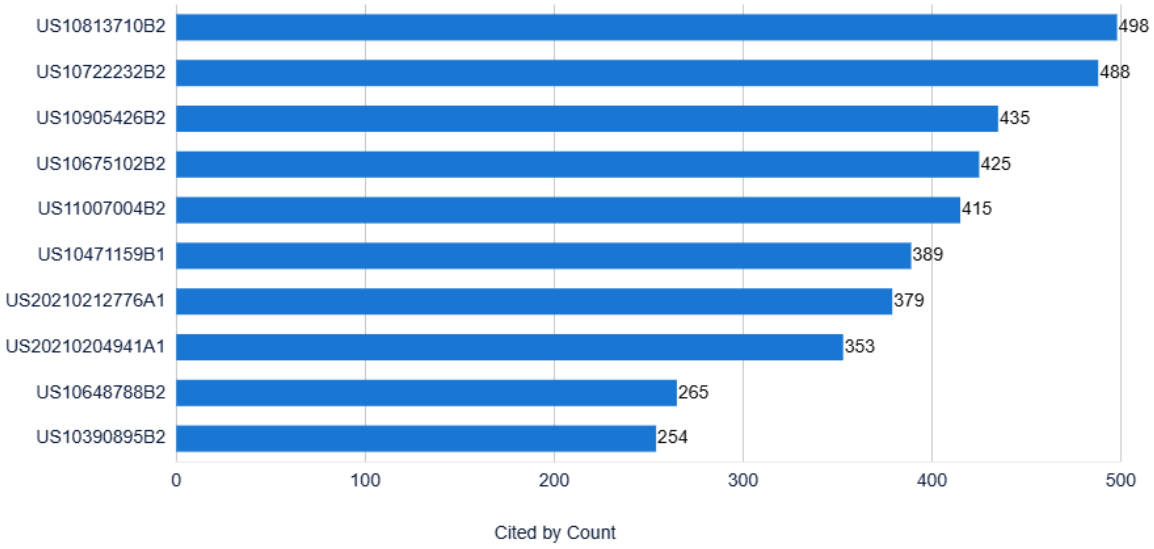
Assess the relationships between top inventors to identify teams who work together in the technology space. This may represent talent groups for recruiting or collaboration opportunities.



Key Patents

Most Cited Patents

View the top 10 records that have been cited most frequently by other records to understand which records are more prolific and have had their technology built upon by others. These patents are likely to be more influential and may represent the core, innovative technology of the organization it represents.

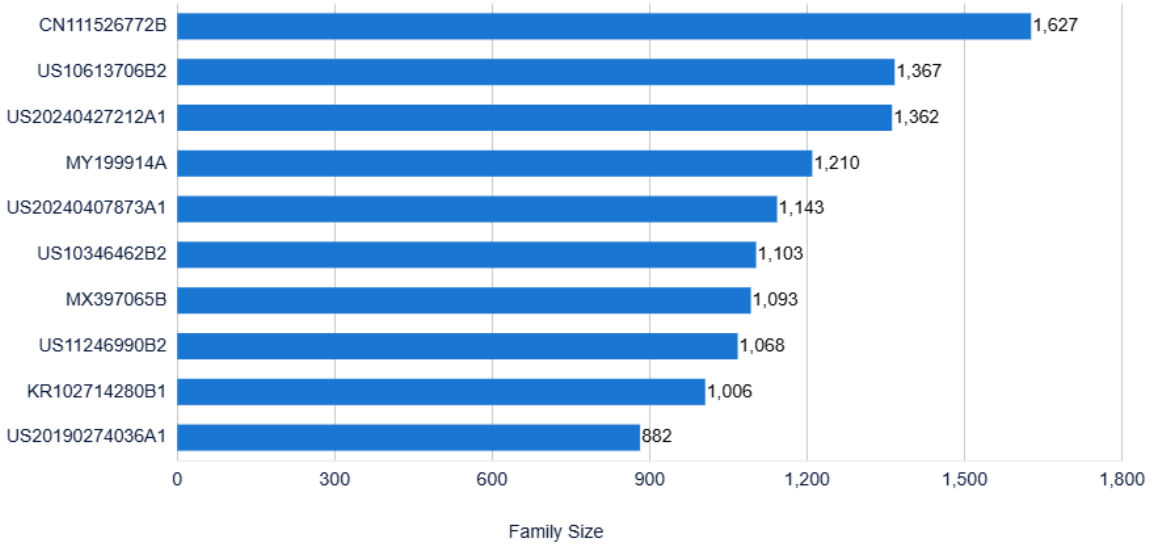


Largest Invention Families

Determine which patent family has the furthest reach of either global coverage, divisional counterparts, or continuations. Identify the most successful inventions that have received a large amount of resources for increased level of coverage (either by expanding the technological coverage or geographical reach).

Note: This chart will display one representative per PatSnap family, if your technology key report results display setting is on ungrouped or one document per application. This is to remove document duplicates.

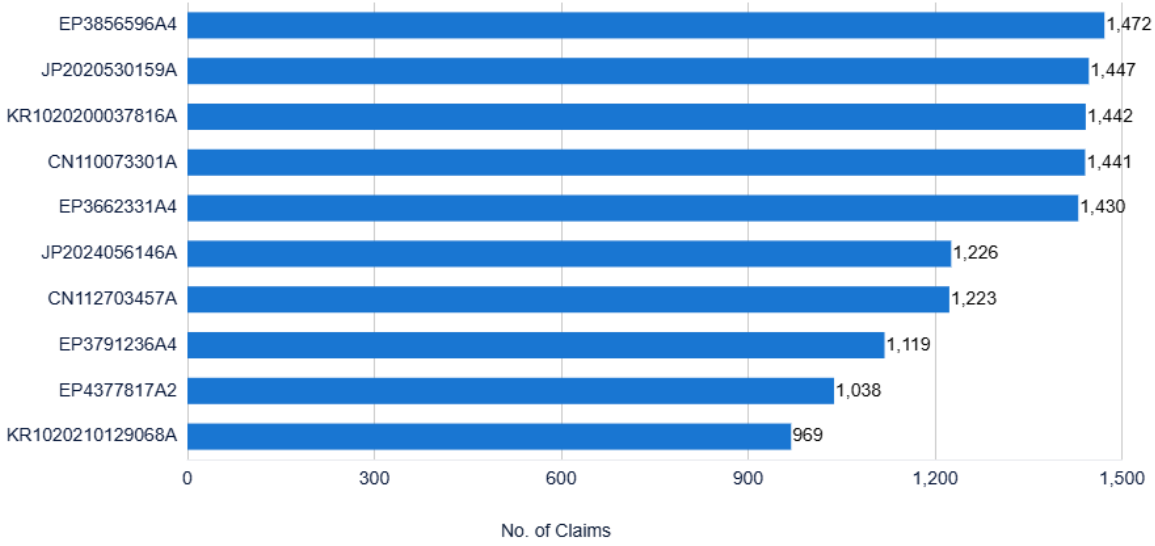
The latest publication will always be selected as the representative, regardless of the result display setting you have on.



Most Claim-Heavy Patents

Identify the patents that hold the largest number of claims (Independent and Dependent). These records represent more complex inventions and those that have the highest level of financial and time investment involved in filing and prosecution.

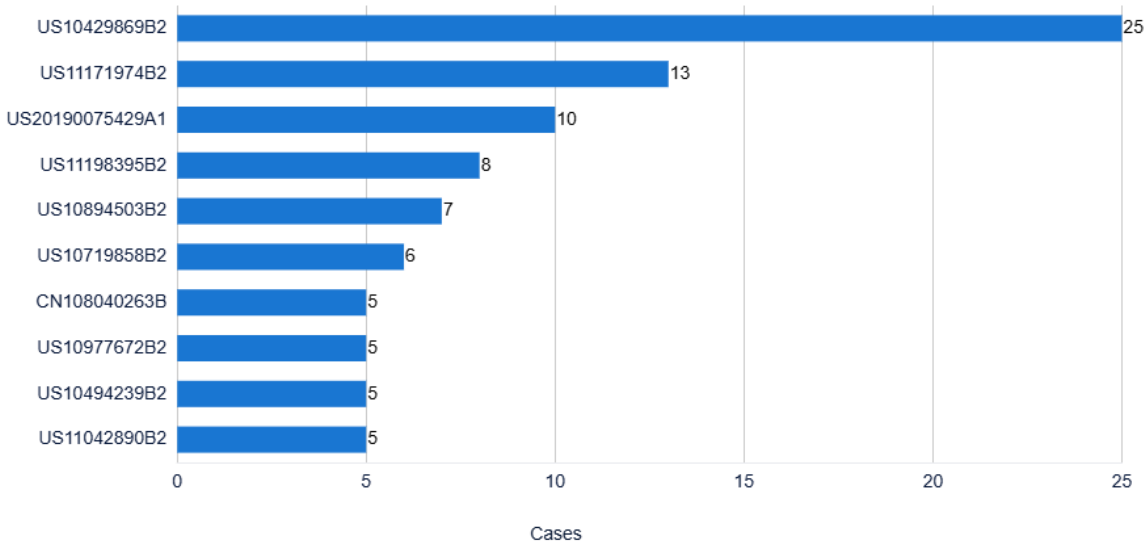
The chart displays one document per application and is calculated using the granted patent.



Most Litigated Patents

Identify the patents involved in the most number of litigation cases. This indicates litigation risk associated to patenting in a similar technology space.

The chart displays one document per application and is calculated using the granted patent.



Market Valued Patents

Value Overview

Understand the value of patents across the technology space.

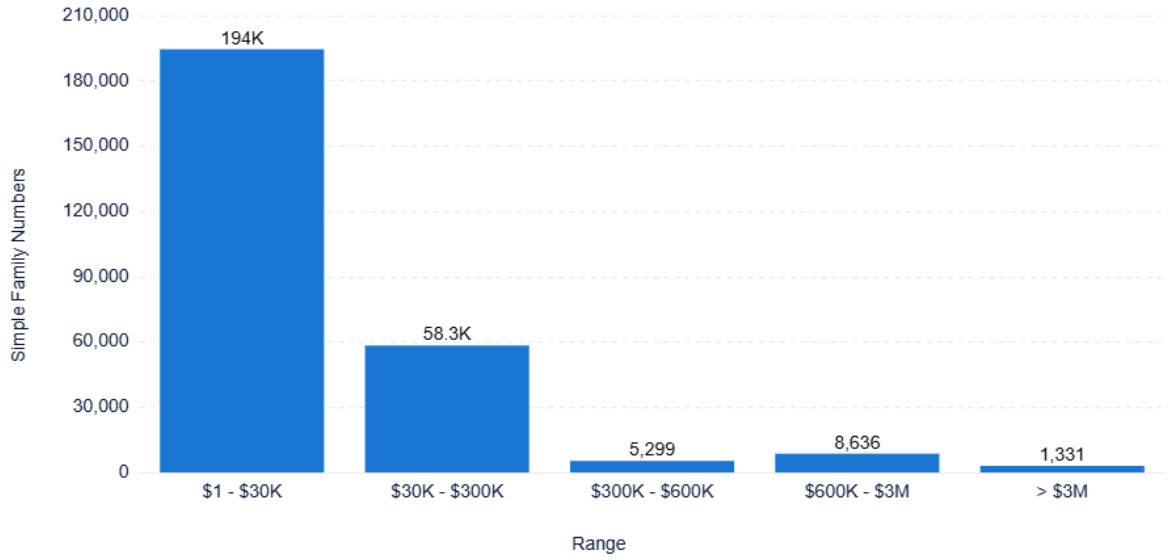
The chart displays one representative per simple family. Patent value is applied at the simple family level.

Total Value	Simple Family Numbers
27,764,296,000 (USD)	268,091 (Group)

Portfolio Value Distribution

Assess the lucrativeness of a technology space based on the spread of estimated patent valuation, with lucrative technologies having a greater proportion of their patent simple families in the higher value buckets.

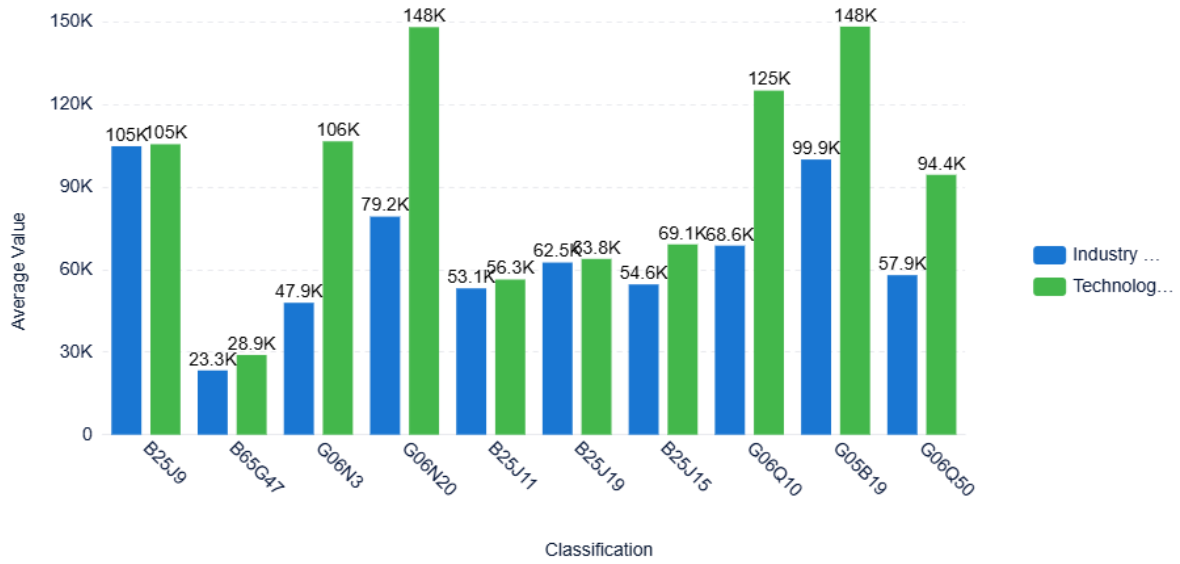
The chart displays one representative per simple family. Patent value is applied at the simple family level.



Technology Area Benchmark

Compare the searched technology's estimated patent value within each IPC class with the average estimated patent values across all assignees within each IPC class. This is helpful to assess the relative strength of innovation that a technology field holds, in comparison to the average valuations of the IPCs covered.

The chart displays one representative per simple family. Patent value is applied at the simple family level.



Highest Market-Valued Patents

Identify the intellectual property gems within a technology field and discover which inventions have the highest market-valuation and lucrative potential.

The Highest Market-Valued Patents are the patent simple families in the technology field with the highest estimated patent values.

The chart displays one representative per simple family. Patent value is applied at the simple family level.

Patents	Title	Std. Current Assignee	Simple Family	IPC Scope	Value(USD)	Priority	Application	Expiry Year	Status
CN112313644B	基于会话数据构建定制的用户简档	META PLATFORMS INC	76	9	$13,200,000	2018/04/30	2018/06/25	2038	Active
US11296935B2	Service provision to IoT devices	INTEL CORP	46	11	$12,800,000	2016/12/30	2017/12/28	2037	Active

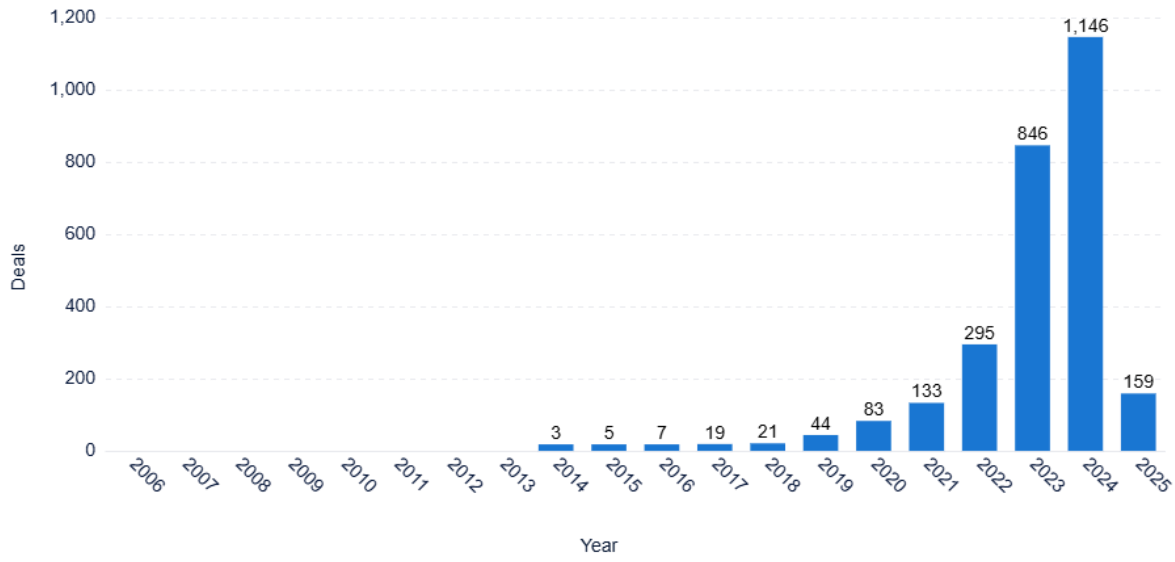
Patents	Title	Std. Current Assignee	Simple Family	IPC Scope	Value(USD)	Priority	Application	Expiry Year	Status
JP7344327B2	アプリケーションプログラミングインターフェイスのメタデータ駆動型外部インターフェイス生成ためのシステムおよび方法	ORACLE INT CORP	53	3	$12,760,000	2016/08/22	2022/02/22	2037	Active
CN110546610B	通过数据共享和分配增强人工智能/机器硬件的处理性能	MICROSOFT TECHNOLOGY LICENSING LLC	110	2	$12,740,000	2018/04/13	2018/04/16	2038	Active
US20230421358A1	Technologies for allocating resources across data centers	INTEL CORP	48	20	$12,670,000	2017/11/10	2023/08/25	Expiry data unavailable	Pending
US20240372792A1	Techniques to control system updates and configuration changes via the cloud	INTEL CORP	189	41	$12,630,000	2016/11/29	2024/07/19	Expiry data unavailable	Pending
JP7243985B2	プロセス制御のためのスーパーバイザエンジン	FISHER-ROSEMOUNT SYST INC	48	3	$12,150,000	2013/09/17	2019/07/11	2034	Active
US10740313B2	Storing events associated with a time stamp extracted from log data and performing a search on the events and data that is not log data	SPLUNK INC	43	1	$11,750,000	2006/10/05	2018/01/30	2028	Active
JP7571187B2	量子アニーリング工程のための量子ハードウェアの構築およびプログラミング	GOOGLE LLC	53	2	$11,710,000	2014/04/28	2023/04/11	2034	Active
KR101961961885B1	가요성 전자 디바이스	APPLE INC	30	6	$11,640,000	2011/09/30	2012/09/24	2032	Active

Licensing Deals

Annual In-Licensing and Out-Licensing

A graph to show the licensing activity of the technology space over time. Evaluate the characteristics of previously licensed patents and assess the likelihood of licensing your patent in the technology space.

The chart displays one document per application and is calculated using the granted patent.



Patent Litigation

Litigation Overview

Overview of the litigation information related to the technology space.

The chart displays one document per application and is calculated using the granted patent (excludes CN/JP administrative cases).

Total Cases	Ave. Duration	Patents Involved	Plaintiff	Defendants
202	0.9 yrs	109	99	167

Litigated Concepts

Understand the keywords and concepts associated with patents involved in litigation. This is useful to understand which technology areas are most frequently involved with lawsuits and highlights the litigation risk of holding patents in certain technology fields.

The size of the segment corresponds to the number of cases associated to the keyword or concept (max. 5,000 patents used).

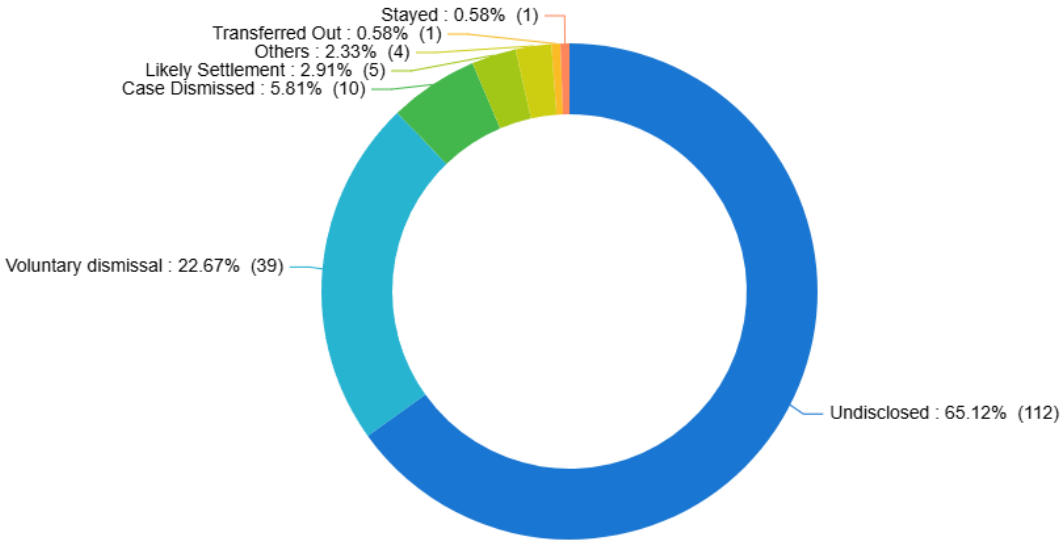
The chart displays one document per application and is calculated using the granted patent.

Basis of Termination

Read the case details to understand more about how cases have been resolved in the technology field.

A chart to show the breakdown of basis of termination (US and GB data).

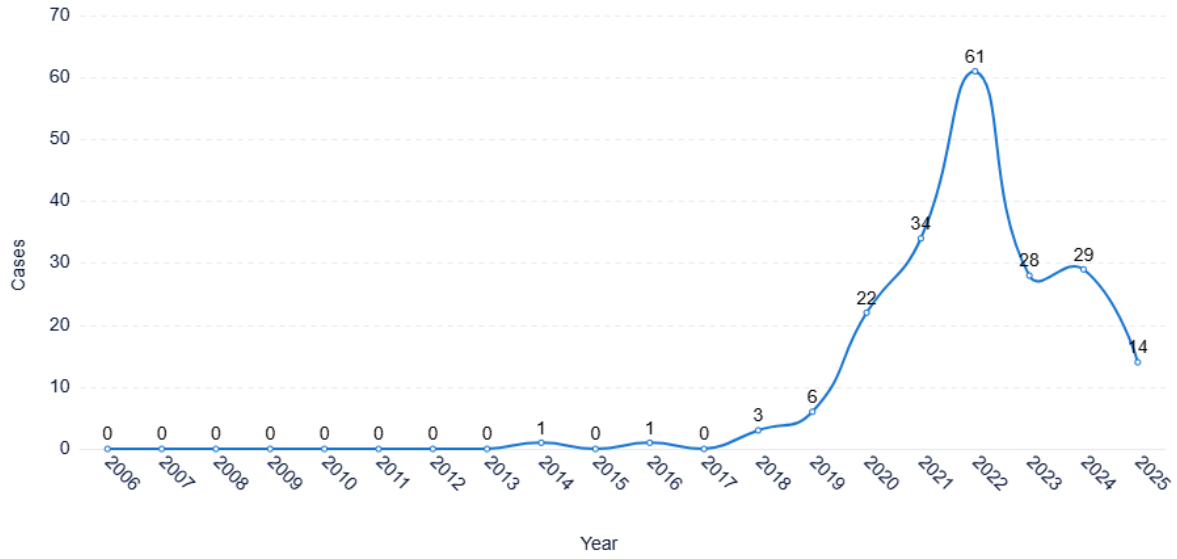
The chart displays one document per application and is calculated using the granted patent.



Litigation Timeline

Determine the frequency of litigation associated to the technology space. Understand the level of risk associated with entering or operating in this technology, and whether litigation is increasing or decreasing.

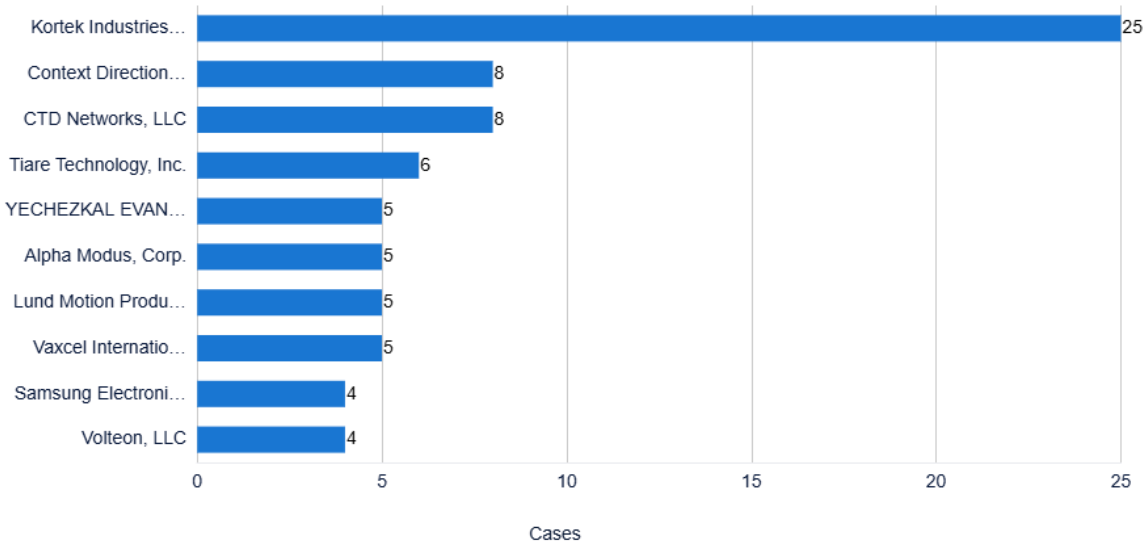
The chart displays one document per application and is calculated using the granted patent(US, CN, TW, JP, ES data).



Most Assertive Plaintiffs

Identify the top 10 most litigious organizations in the technology space. These organizations may pose a greater litigation threat to nearby players.

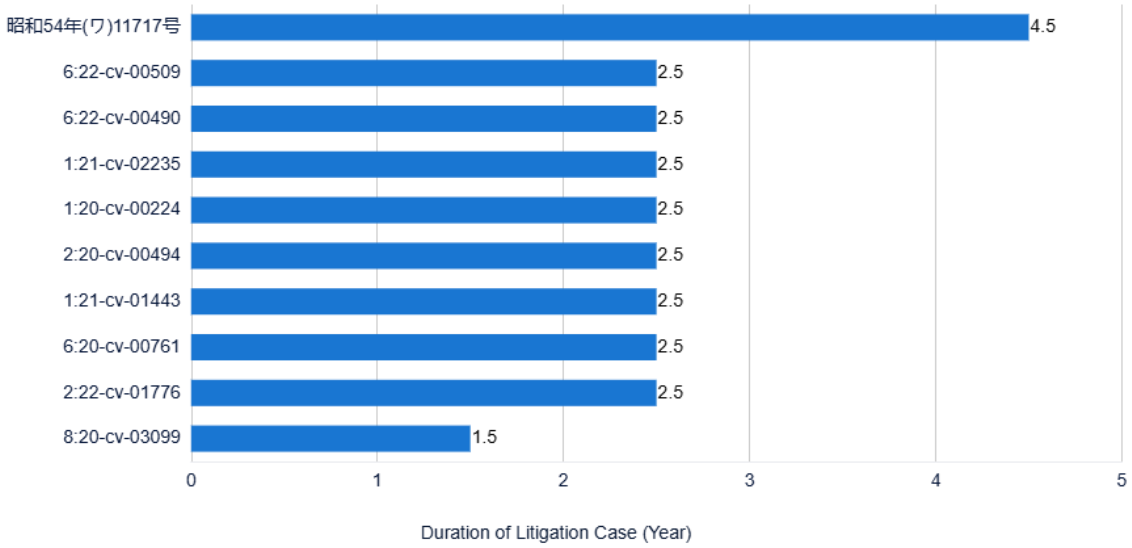
The chart displays one document per application and is calculated using the granted patent.



Longest Litigated Cases

Identify the lengthiest litigation cases. A long litigation case can be very expensive as it can involve a lot of preparation, unpredictable appeal outcomes, and outsourced legal advice. Patents involved in long litigation cases may protect technology that is valuable to the company that owns it as they are willing to invest much time and money to fight for the rights.

The chart displays one document per application and is calculated using the granted patent(US, CN, TW, JP, ES data).

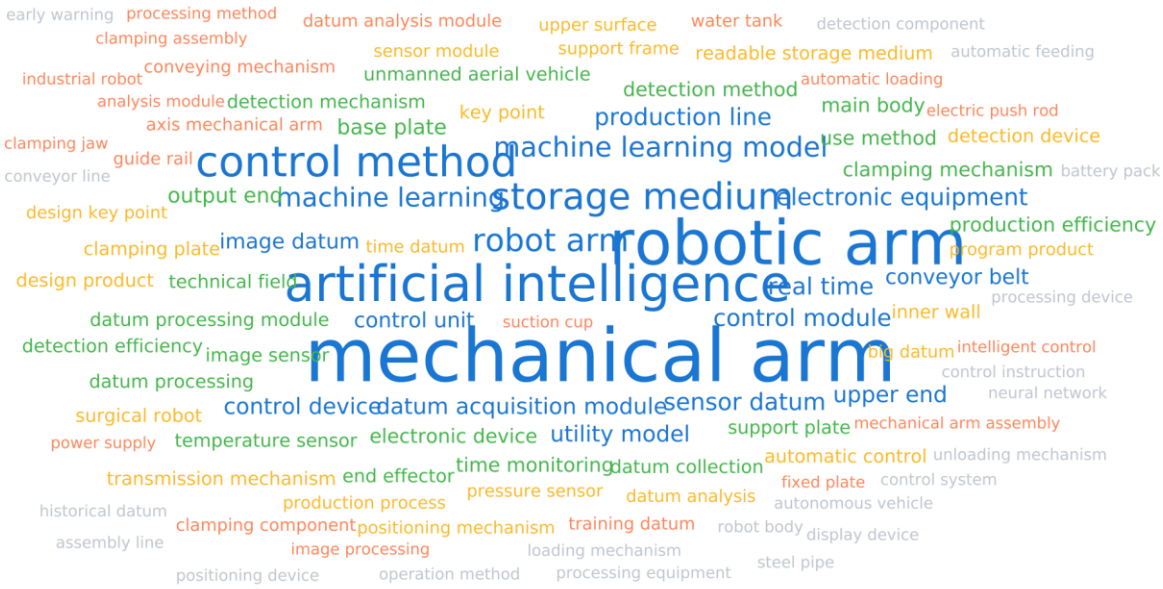


Innovation Word Clouds

Innovation Word Cloud

A snapshot view of the keywords and phrases found within records in the technology space. This can be used to influence subsequent patent searches by making you aware of the more common terms used in this technology space.

The Word Cloud displays the most frequently occurring keywords of the most recent 5,000 publications in the technology field.



Wheel of Innovation

A two-tiered view of the keywords and phrases found within records in the technology space. This can be used to influence subsequent patent searches by making you aware of the more common terms used in this technology space. It is also useful to identify terms that are commonly associated with other similar terms.

The Circle Chart categorizes the most frequently occurring keywords of the most recent 5,000 publications in the technology field into a 2-tier hierarchy.

Technology Landscaping

Technology Landscaping

The Technology Landscape enables you to visualise the layout of the technology space, with peaks representing more concentrated areas of patenting activity and troughs representing areas of little or no activity - these suggest areas of potential opportunity and exploration.

The Landscape is generated through text clustering, followed by extracting of keywords by analysis of record text in each cluster.