

10 common pitfalls of patent research, and how to avoid them

Using patent research to inform
business decisions, from R&D
to strategy to M&A



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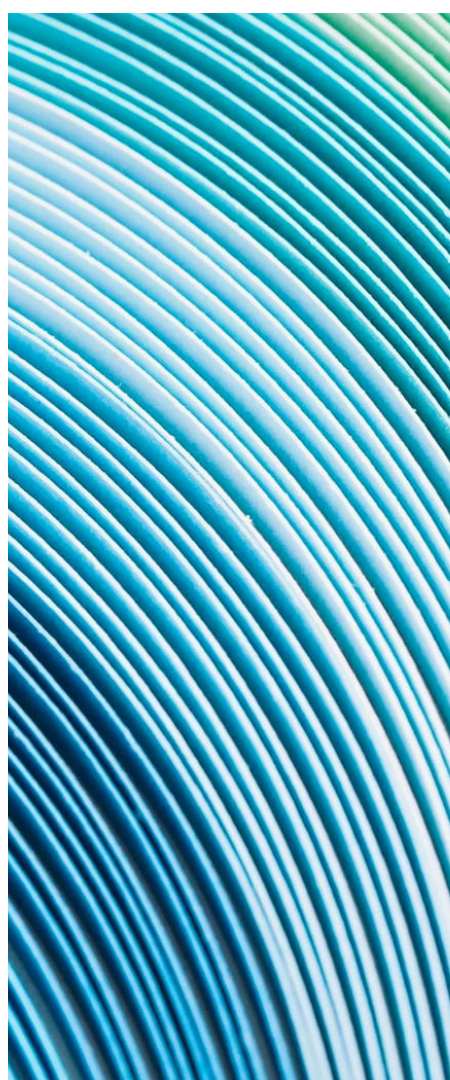
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The challenges of patent research, and why it matters





10 most common pitfalls of patent research (and how to avoid them)

Patent research is a critical task for informing R&D investment, identifying emerging competitive threats, evaluating potential infringement and making key business decisions.

However, the patent data that R&D, IP and competitive intelligence professionals use when performing research varies widely. Many researchers use patent data which deviates very little from how it was originally published.

This data has undergone a minimal level of normalization and correction.

Duplicated publications aren't condensed, which creates a lot of extra noise.

More critically, key data, such as the legal status or assignee, is often missing, the titles aren't very descriptive and abstracts are difficult to read and difficult to count, due to duplication of patent publication.

This can lead patent researchers to potentially draw inaccurate conclusions or spend too much time tracking down the right answer.

In this e-book, we share some of the most common pitfalls of patent research, and how you can avoid them to:

- save time,
- avoid unnecessary expenses, and
- make recommendations your stakeholders can trust.

1. Your search results are incomplete

1. Your search results are incomplete

Patents are legal documents, often written using technical terms or language not commonly used. This can make it difficult to discern the true nature of the invention and also to find relevant publications with basic keyword searches.

When your patent searches results are incomplete, you could be missing key information to inform your business decisions.



When your patent searches do not include a significant proportion of relevant records, you could be missing:

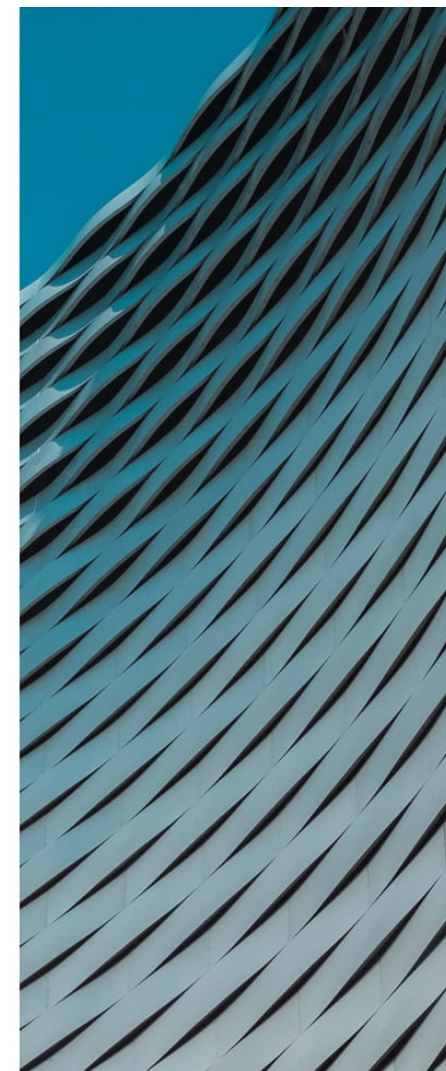
- Relevant patents that could impact your freedom-to-operate decision, leading to challenges down the road in costly amendments, litigation or lost revenue opportunities
- Relevant prior art that could change which claims you decide to include with a new patent application, resulting in longer, more complicated, more expensive patent prosecution
- Key prior art that could have been used to invalidate a competitor's assertion and avoid a licensing royalty or litigation

Pro tip #1

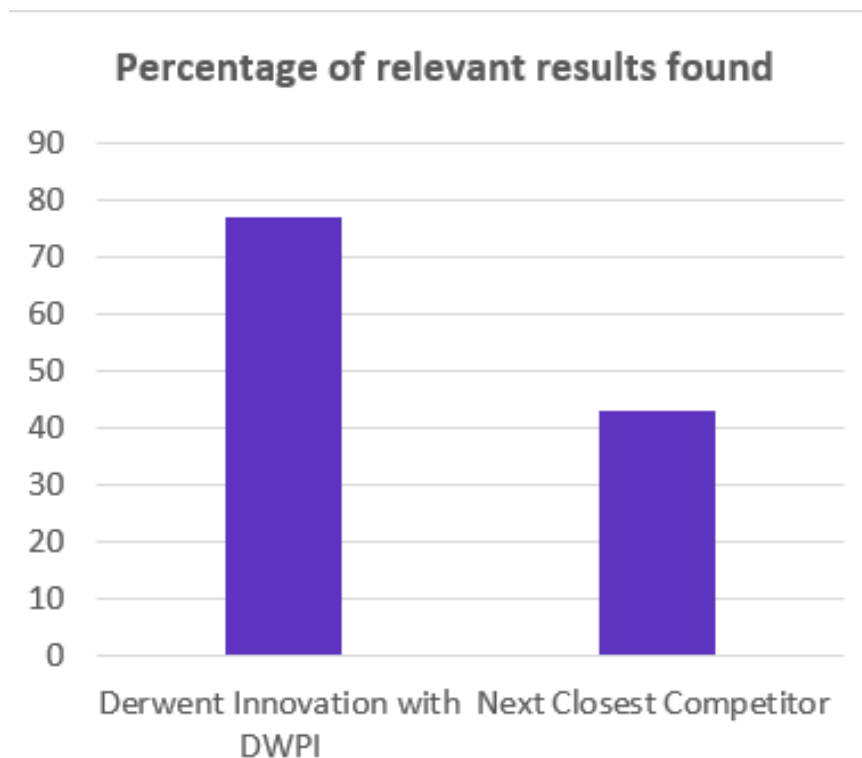
Use patent data that includes rewritten titles and abstracts. This improves the effectiveness of your keyword searches, as these abstracts include standardized terms that are more likely to match your search.

The Clarivate™ team of more than 900 patent editors translates, indexes and rewrites an average of over 85,000 patents from 61 sources every week to maintain the Derwent World Patent Index™ (DWPI™).

Each DWPI record includes a descriptive title and an abstract that clearly summarizes key aspects of the invention, such as its key features, what it is used for, and what benefit it provides.



Patent searches that incorporate the DWPI find what other patent search tools may miss. DWPI improved keyword search results by 79% compared to patent searches performed without DWPI using other patent search platforms.¹



[1] How patent search applications were evaluated: We hired an outside firm to gather and review results from Derwent Innovation and three other well-known patent search applications. We provided the searches for each of the four technology domains. The outside firm translated the searches using each application’s specific syntax and gathered the results from each application. To ensure a blind test, the outside firm consolidated the results from each application into a list of patent numbers for each search and removed any data that could be used to identify the originating search application. The results from each search were then reviewed by our team of analysts with subject matter expertise in each specific technology domain. Our analysts scored each result as not relevant, low, medium, or high relevance. These scores were then mapped to the results returned by each application. This allowed us to determine a recall and precision score for each application with equal weight given to each search. These scores are shown as percentages in Figure 1: Percent of Relevant Results Found. Searches were performed in January 2021. Refer to report [“Patent Search Results You Can Trust”](#) for additional details.

2. You're using the patent's original title to determine if it's relevant





2. You're using a patent's original title to determine if it's relevant

When it comes to patents, you can't judge a book by its cover. Some patent titles are a single word. For example, the title for US 9,890,351B2 is "Encapsulates." Most patent researchers use patent titles when making a first pass of their search results.

However, when you're scanning dozens of patents it can be easy to overlook relevant patents with short, non-descriptive titles. Alternatively, you would need to read each document to determine if it's related to your search, which is too tedious and time-consuming.

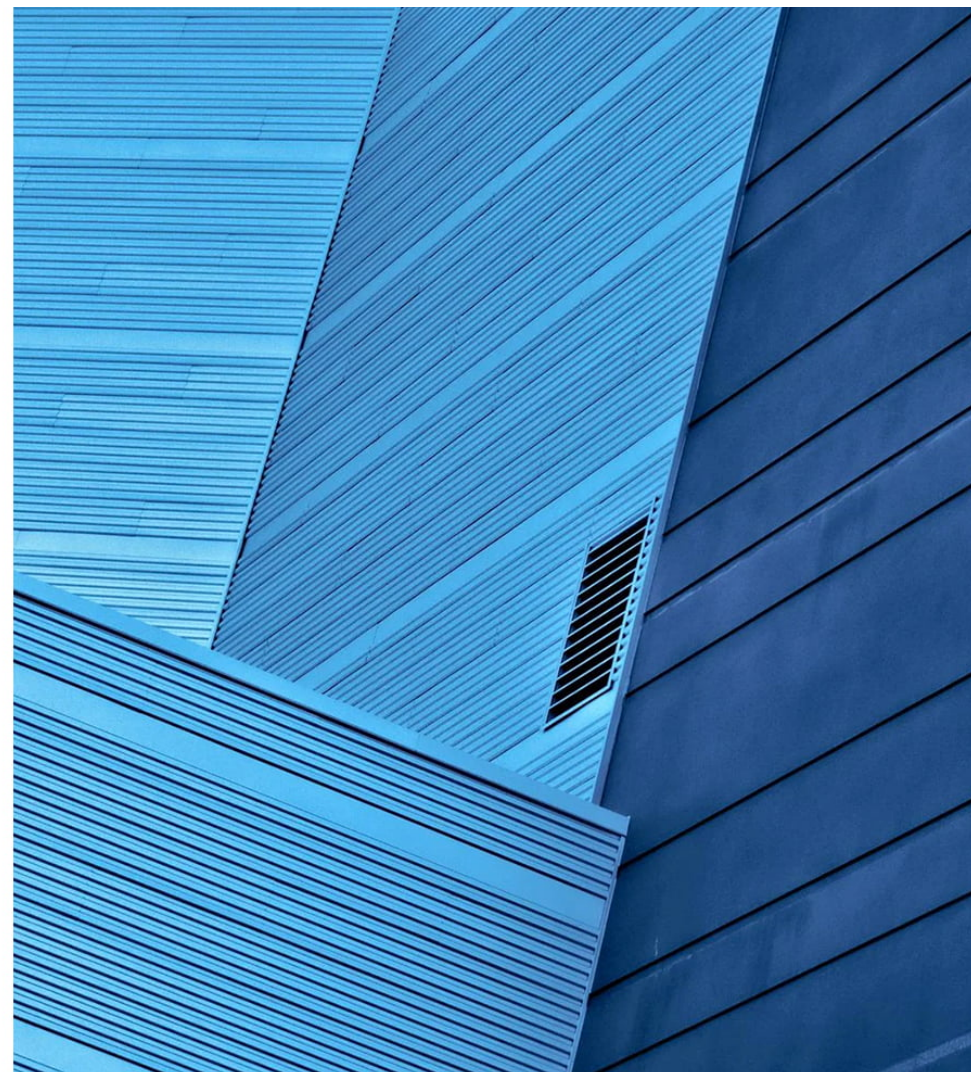
Pro tip #2

Editorially enhanced titles help you to identify relevant documents that you might otherwise miss. For example, compare the title mentioned previously in this section, "Encapsulates," with the DWPI title for the same document:

DWPI enhanced titles are written by patent editors with subject matter expertise to help you understand what the patent covers.

This helps you to determine what publications are relevant without having to review every document.

"Encapsulate useful in e.g. personal care composition such as baby care composition comprises shell comprising polymer and core e.g. perfume where the shell encapsulates the core and comprises electromagnetic radiation sensitive moiety."



3. You can't see a patent's full history, such as prosecution or global litigation activity



3. You can't see a patent's full history

Basic patent data don't make key details readily accessible. For example, it is not easy to ascertain whether a patent has been litigated, or see its full prosecution history or if maintenance fees have been paid.

Without it, you might underestimate the risk associated with entering a new market, launching a new product or acquiring a company.

This information could tell you how valuable a patent is to its owner, or how likely they may be to enforce it.



Pro tip #3

Use patent data that correlates information from additional sources to the patent record.

Supplementary patent data, such as global litigation case data, prosecution data and estimated maintenance cost data, will help you to see the complete picture without having to stitch together data from multiple, disparate sources.

You'll also be able to use this data to filter your results to identify key patents or see a patent's complete history.

Correlated data provides the in-depth perspective and context your team needs when launching new products, filing patents in new technology domains or entering new markets.



4. The patent's owner isn't who you think it is

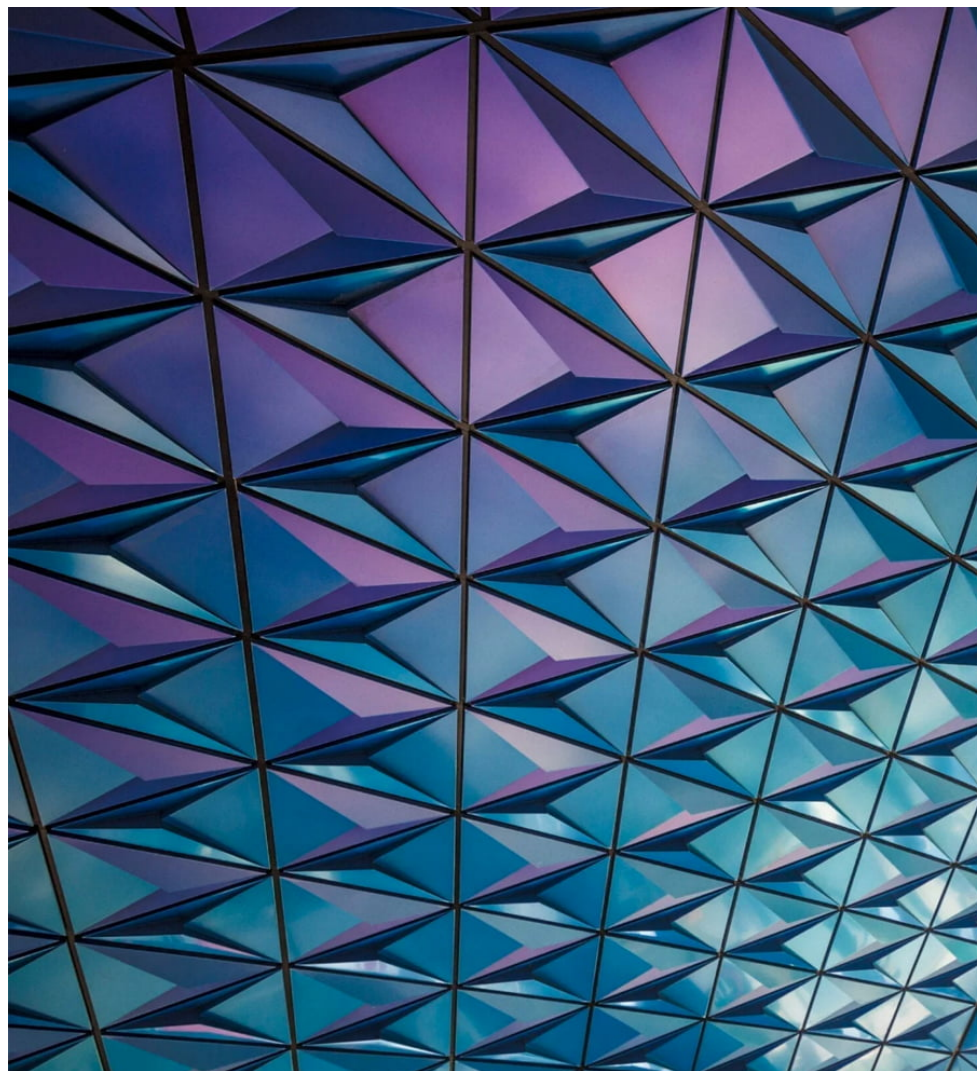


4. The patent's owner isn't who you think it is

Most patent data providers perform a basic level of data processing to correct company name misspellings or variations.

However, with complex corporate hierarchies, mergers and acquisitions and reassignments, the assignee name shown on a patent may not be its current 'ultimate owner.'

The company to which a patent was originally assigned could have been acquired and now be a subsidiary within a multinational corporation, or the original owner may have recently sold a business unit, along with its IP portfolio, to a private equity firm.



Knowing who actually owns a patent is critical when trying to anticipate how the owner may use the patent.

- Is it something they're likely to enforce?
- Is it something they'd be willing to license?

The answer of course will vary depending on the strategy of the patent's actual owner.

Pro tip #4

Make sure your patent data is maintained using normalization rules that go beyond name corrections and incorporate reassignments, corporate hierarchies and recent M&A activity to correctly reflect current owners.

Clarivate applies 7,000 normalization rules to its patent data on a weekly basis to ensure the ultimate owner shown on the patent record is correct and current.

This normalization process incorporates patent reassignment data and uses corporate hierarchy trees that are continuously maintained to account for mergers and acquisitions.

Reliable ultimate assignee data helps you avoid surprises – such as when a relevant patent is acquired by a competitor or non-practicing entity (NPE).



5. A patent appears to be active, but is no longer in force





5. A patent appears active but is not in force

With basic patent data, it's not easy to follow the continuation chain and include any applicable term adjustments to determine whether a patent is still in force or to calculate its expiry.

Take for example US 9,446,521B2, which was published September 20, 2016.

Because it's a continuation of US 6,594,844B2 and has a term adjustment of 167 days, it will actually expire on July 10, 2021.

With unclear expiration dates, you may be missing opportunities or creating unnecessary hurdles for your R&D team.

You may, for example, advise your team to redesign a new product to account for potential infringement risk, despite the fact that the patent of concern will no longer be in force by the time the product launches.

Pro tip #5

Determine if your patent data includes an estimated expiration date and how it's calculated.

Estimated expiration dates that incorporate priority chains and term adjustments will help you to save time and avoid costly mistakes when determining when a patent will expire.

Developing and launching new products is already hard enough – the last thing you need is to be making design changes to account for expired patents!

Example section of DWPI patent record with estimated expiration date and how it's calculated

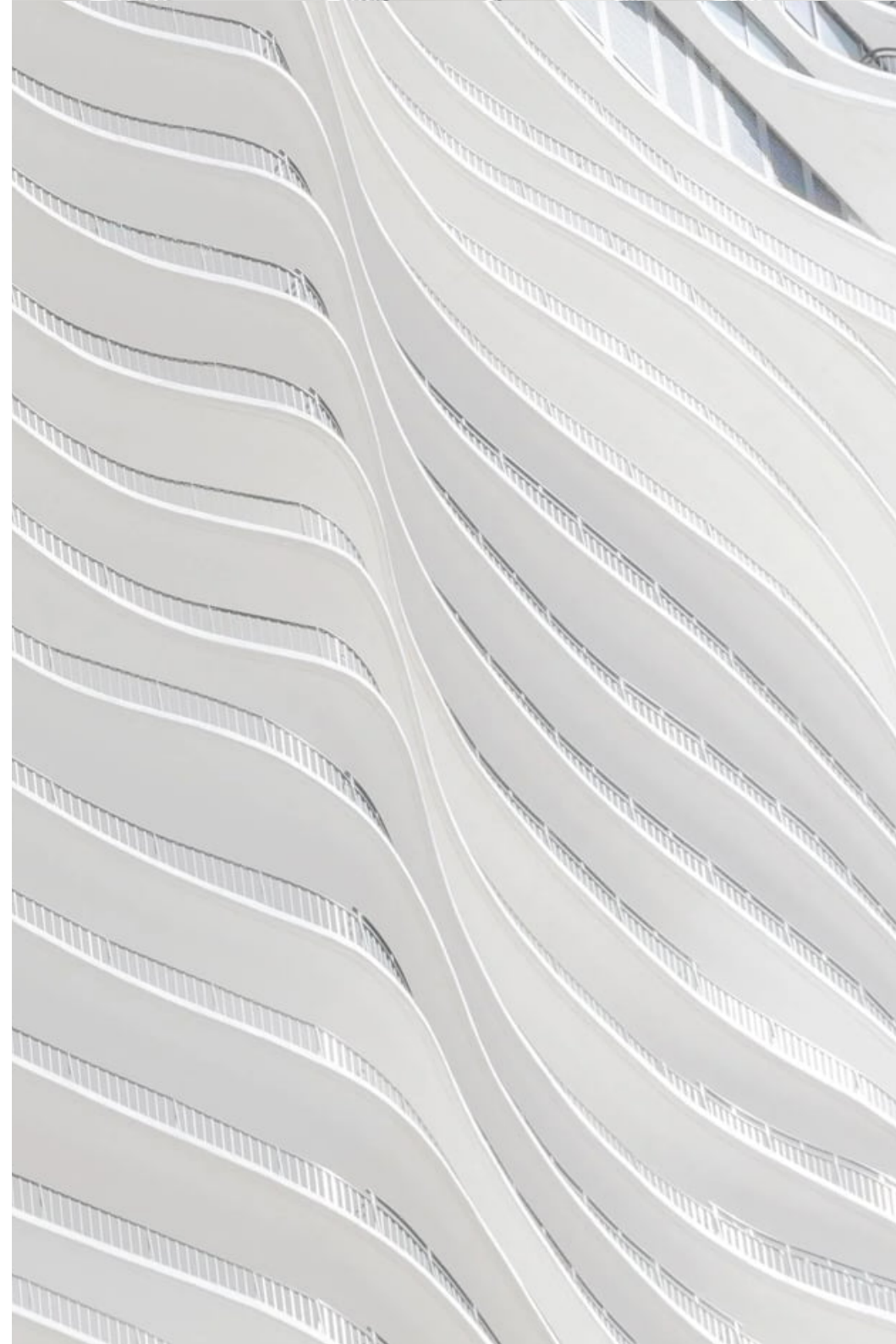
PATENT/PUBLICATION:US9446521B2

Key summary data

Patent	❌ Dead	Publication date	2016-09-20
DWPI family	❌ Dead	Expiration date	2021-07-10 (estimated)
INPADOC family	✅ Alive	Remaining life	(0 year(s))

Estimated Expiration Date	2021-07-10
Disclaimer	This patent is subject to terminal disclaimer
Estimated Terminal Disclaimer Prior Patent	US6594844B2
Estimated Terminal Disclaimer Prior Patent Expiration Date	2021-09-01
Estimated Earliest Effective Filing Date	2001-01-24
35 U.S.C. 154 Patent Term Adjustment	167 days
Terminal Disclaimer Earliest Estimated Filing Date	2001-01-24

6. You're spending hours determining patents' novelty

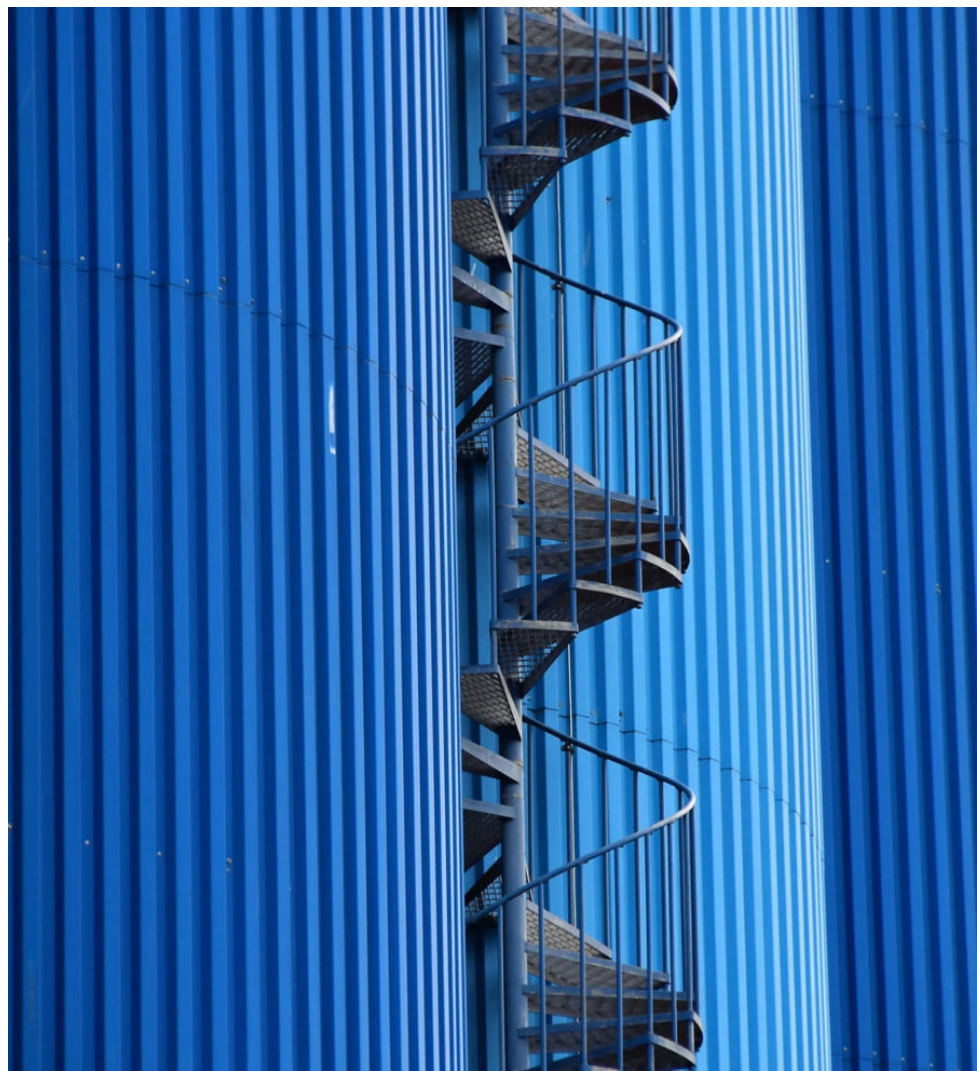


6. You're spending hours determining patents' novelty

It's not easy to understand what makes a patent novel, or what exactly it covers, without reading the entire patent.

Patents are legal documents packed with obscure language and making sense of a patent's technical detail usually requires help from someone well-versed in deciphering the true nature of the invention.

As a result, making an informed decision when it comes to patentability, validity, or freedom to operate can be an extremely time-consuming and sometimes cost-prohibitive task.

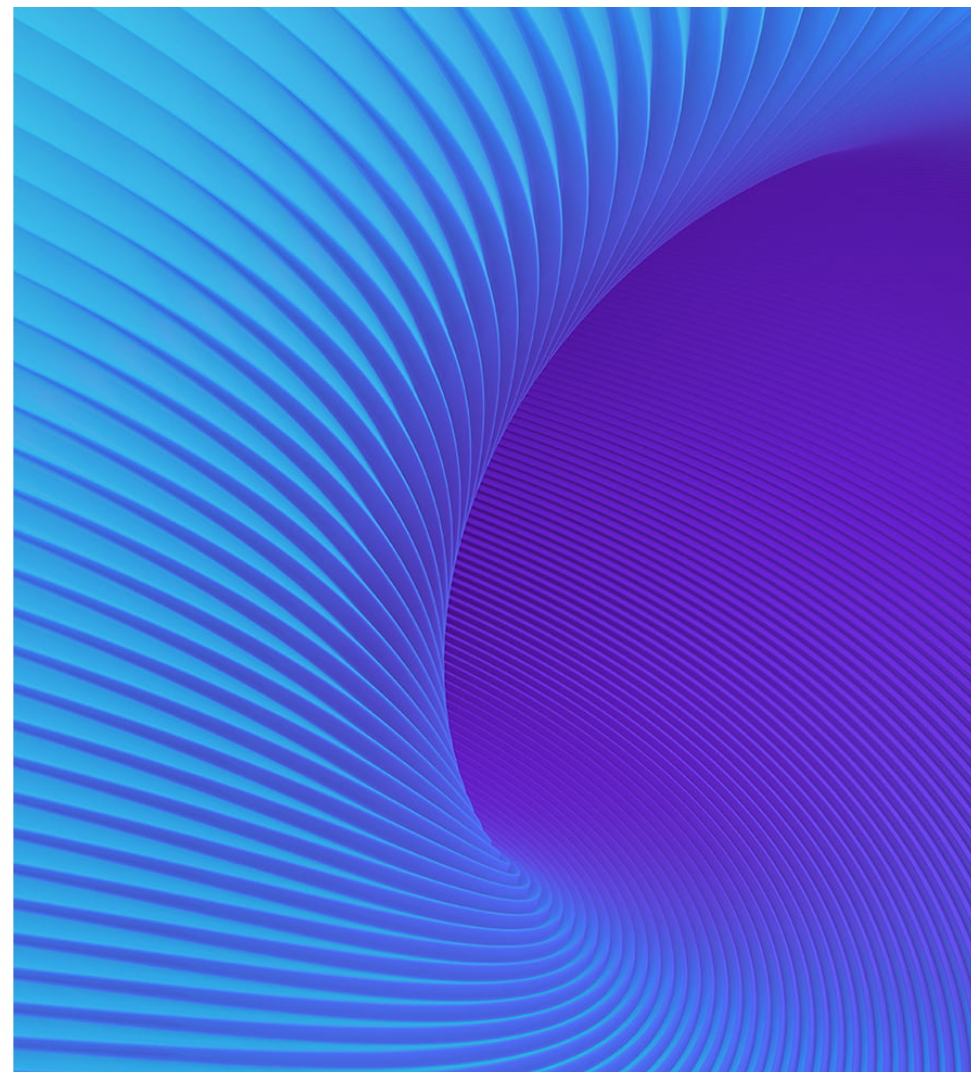


Pro tip #6

Editorially-enhanced patent abstracts that summarize important aspects of the patent, such as novelty and advantage, can help you decipher a patent's contents much more efficiently.

DWPI abstracts are created by editors with subject matter expertise in the technology domain. Each editor reviews the original patent publication and writes an easy-to-understand summary for each of the following categories:

- **Novelty:** the unique inventive feature that characterizes the invention
- **Description:** the inventive feature and all independent claims
- **Use:** the application of the invention
- **Advantage:** how the novelty is an improvement over the prior art



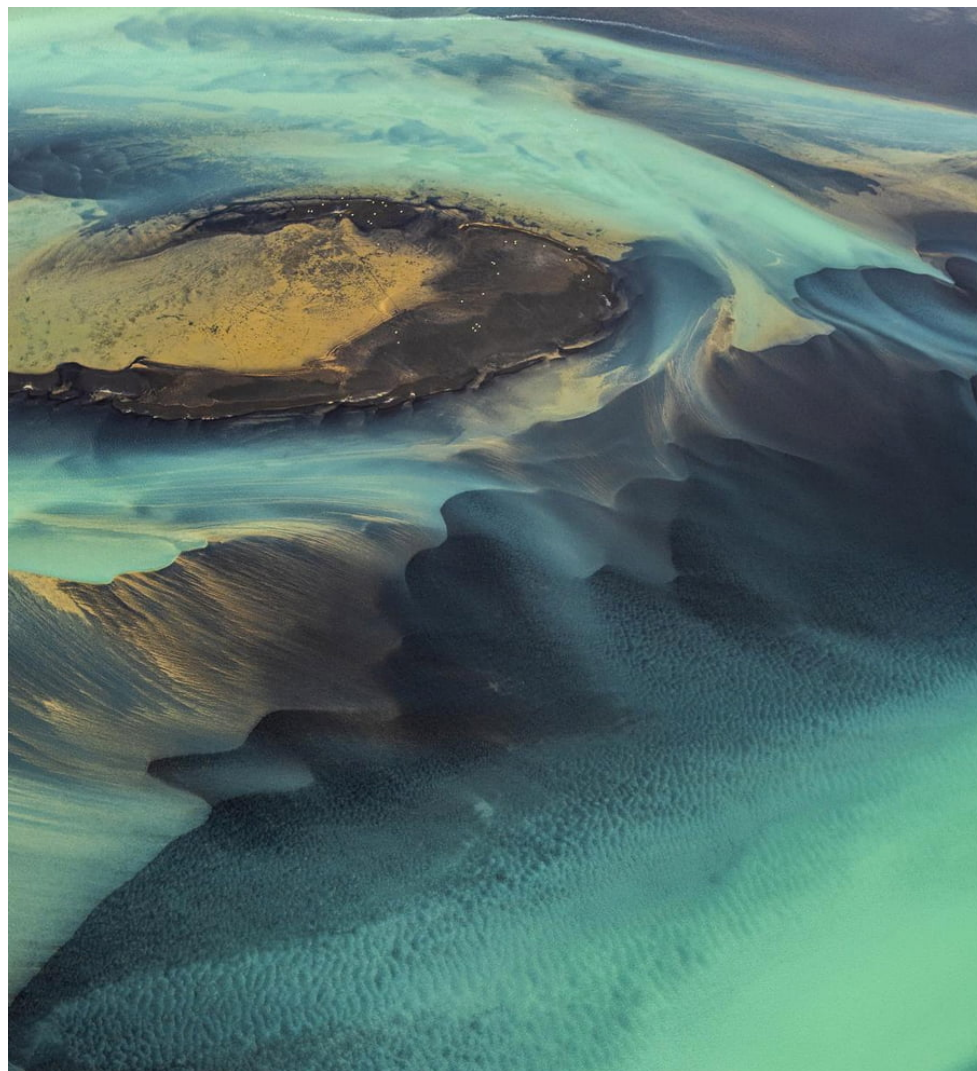
7. You spend too much time sorting out irrelevant results



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Patents require disclosure for how to make and use the invention. This information allows you to discern the type of product the invention supports, which is helpful for determining how the patent's owner may intend to commercialize the invention. This information is useful for performing white space analysis, or for identifying opportunities for licensing your company's patents in non-competing applications.

However, a patent's use isn't a specifically defined field on a patent publication, and it's usually found in the summary or description, which can be quite lengthy. Keyword searches that attempt to focus on how an invention is used will often return a sea of irrelevant documents that a researcher will need to review one-by-one to determine which records are relevant.



Pro tip #7

Use abstract fields to focus your keyword searches.

DWPI abstracts break down a patent's contents, such as use, novelty, and advantage, into clearly defined fields.

By having this information in searchable fields, patent researchers can focus keyword searches on specific aspects of the patent. With the “use” field, for example, researchers can retrieve patents that describe a particular use in their summary or description, without having to sort through a long list of irrelevant publications.

Example section of DWPI record with enhanced abstract summarizing novelty, use and advantage

PATENT/PUBLICATION:US8910819B2

Novelty

The mechanism (20) has a latch (22) attached to a top portion of an insulating container (10), and a latch keeper (40) integrally molded to a bottom portion of the container. The latch keeper has a recessed pocket (42) formed in an elongated keeper slot, where the pocket receives the latch. The latch is made of a flexible, stretchable, resilient, one-piece molded material and pivotally attached to and received within a recessed, elongated latch slot integrally molded within the top portion. A grasping portion of the latch is formed in t-shape, y-shape or tab-shape.

Detailed description

The portions of the container are formed from plastic using a roto-molding process. An INDEPENDENT CLAIM is also included for an insulating container comprising a latching mechanism.

Use

Latching mechanism for maintaining a closed position between a top portion and a bottom portion of a container i.e. insulating container (claimed) such as cooler, ice chest and ice cooler, for receiving and storing contents, items and goods. Can also be used for a closet, a door and a window.

Advantage

The engaging portion of the mechanism is sized and shaped so as to provide maximum contact with the recessed pocket, thus ensuring an easily maintainable closure. The insulated container and the latching mechanism can be easily and efficiently manufactured into a durable and reliable construction capable of withstanding harsh environments and rough handling. The latch keeper has the recessed pocket for receiving the latch that is made of the flexible, stretchable, resilient, one-piece molded material, thus maintaining sufficient tension to maintain the closed position without any deformation.

8. You're using extended patent families to consolidate patents for review



8. You're using extended patent families to consolidate patents for review

Consolidating your patent search results by INPADOC family can help you remove duplicate publications from your analysis, but the INPADOC family often does not provide an accurate invention-level analysis.

INPADOC families are assigned based on commonalities in priority claims. With divisionals, continuations, and

continuations-in-part, this can result in an INPADOC family that includes patents covering multiple inventions. Additionally, INPADOC families will not include non-convention equivalents or patents from certain patent offices which do not transmit data to the EPO, such as India or Vietnam.

Analyzing invention families is helpful when trying to evaluate your competitor's future direction and which inventions they're most actively trying to protect.



With patent families, you're also able to more accurately evaluate a company's inventive output by measuring the number of new inventions (versus the number of new patent applications.)

Pro tip #8

Analyze patents at an invention-level. DWPI families include related non-convention equivalents (NCEs) and separate continuations-in-part that introduce new subject matter into new DWPI Families.

DWPI has categorized more than 100m global patents into 51.5m families to make it easy for you to search, sort, and see which invention-level families are most active in your technology domain.



9. Your analysis of global patents by company, inventor or agent is incomplete





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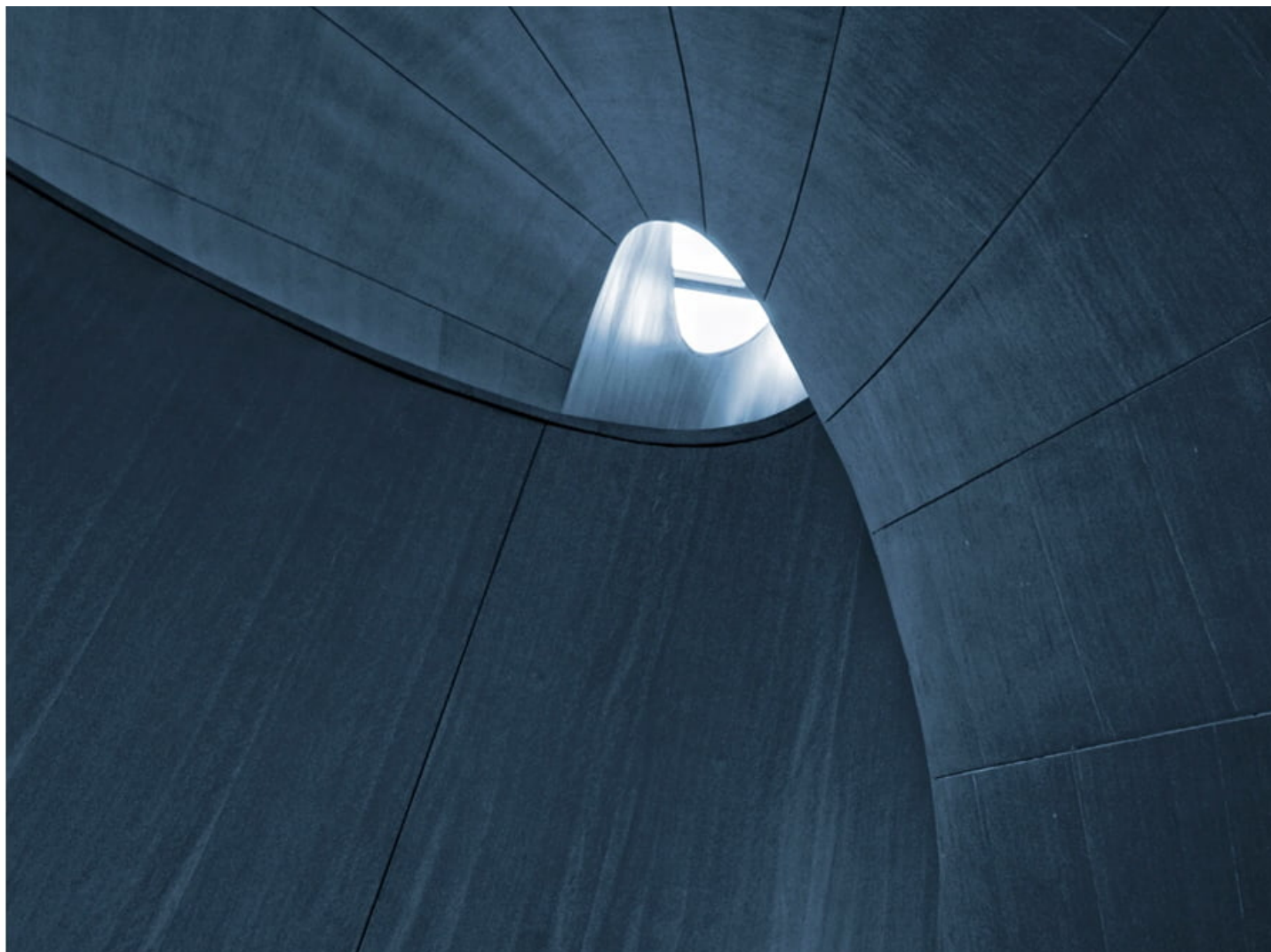
Consider that 45% of all global patent applications in 2020 originate from Mainland China. Millions of patents are drafted in Chinese, and translated to Japanese, Korean, Russian or German, and then translated back to English. During this process, company and inventor names are transliterated one or more times, names are inverted and alternate spellings introduced.

As a result, it's become much more difficult to know if the patent data you're using to answer important questions like "what inventors have filed the most patents in lithium ion technology globally" or "in what markets is my competitor filing patents related to data centers" is complete.

Pro tip #9

Find out how your patent data provider handles company, inventor and agent names originating from jurisdictions that use non-Latin characters (such as South Korea, Russia or Thailand.)

Clarivate uses a combination of machine learning and human translation to translate and normalize inventor, company and agent names originating in 30 different languages. Inventor, assignee and agent names originating from South Korea, Mainland China and Japan are standardized using AI-assisted human curation to ensure consistency across all global publications.



**10. You can't
predict whether an
application will
grant**

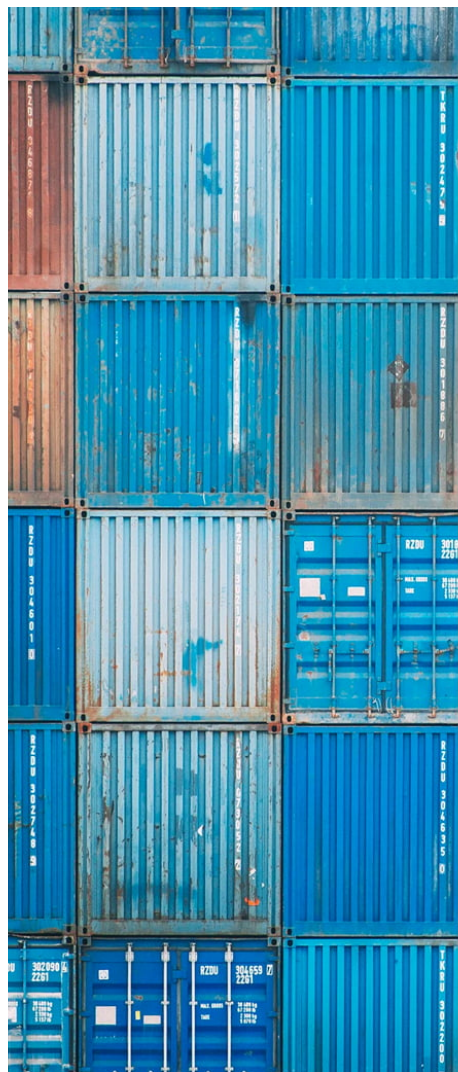


10. You can't predict if an application will grant

When a competitor files a new application in your technology domain, one of the first questions that gets asked is “what is the probability that the application will grant?” These applications may create future freedom to operate risk for a product that is still in development and does not have patent protection.

A similar question is raised for granted patents that also pose future freedom to operate challenges. Given the number of patents that are not maintained to full term, “how likely is it that these patents will still be in force by the time the business plans to launch a new product?”

Estimating whether a patent application will grant or whether a grant will be allowed to lapse is complicated, and to provide an estimate with an acceptable degree of confidence requires a lot of data points and a solid statistical model.

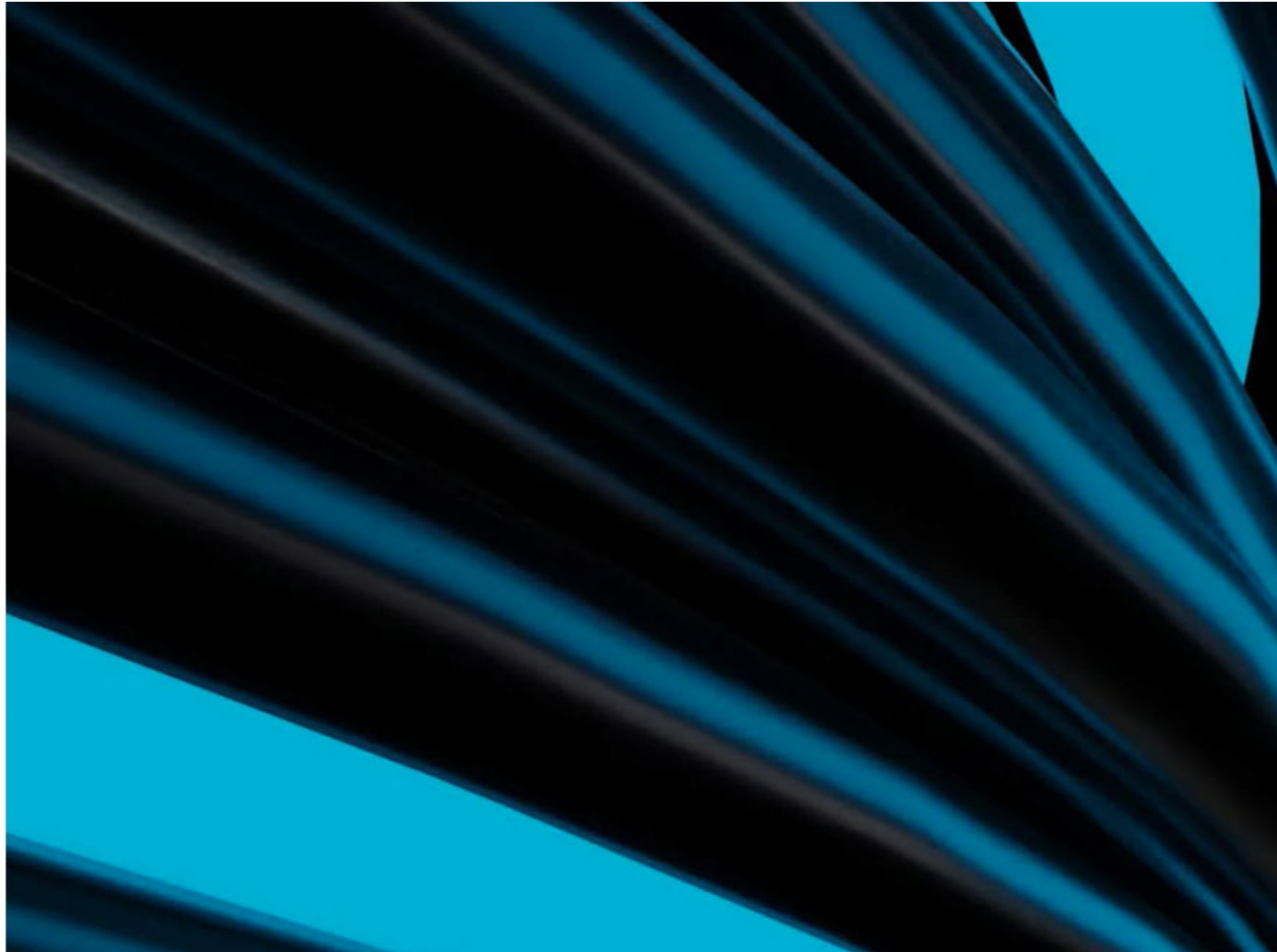


Pro tip #10

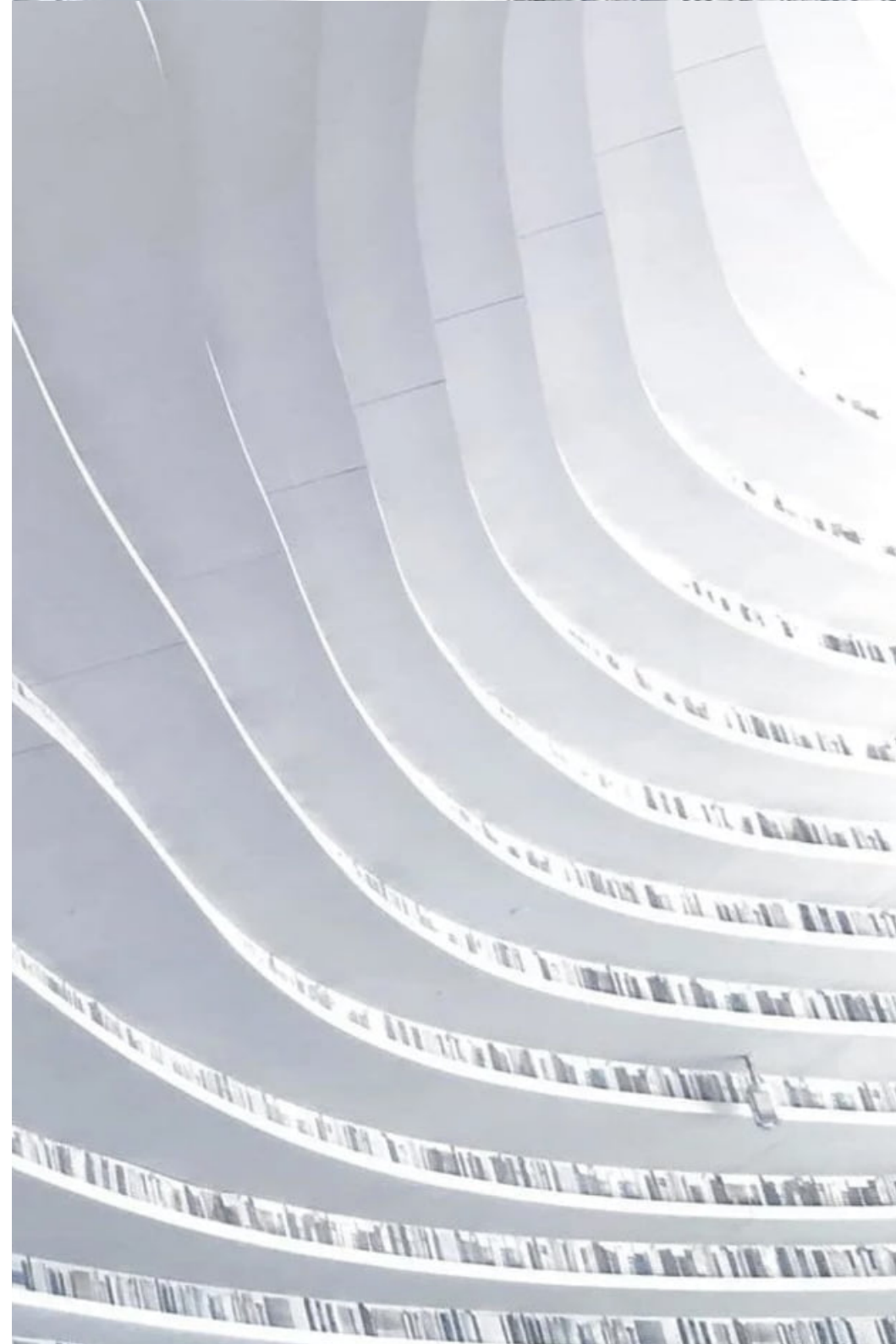
Determine if your patent data includes predictive metrics, and if so, use them alongside your own estimate of grant or early lapse.

Predictive metrics in Derwent Innovation have been developed and refined using machine learning to analyze historical outcomes across more than 150 input variables.

With predictive metrics, and your own industry expertise, you can make a higher confidence assessment of whether certain patents may impact your freedom to operate at the point in the future when you intend to launch a new product or enter a new market.



**Better decisions
start with better
insights**





Better decisions start with better insights.

Is your current patent data allowing you to capture the right insights? Considering the decisions that your team uses patent data to inform — decisions about what inventions you should protect, if you should launch a new product or what technology you should license — you can't afford to use patent data that's not normalized, correlated and editorially enhanced.

To learn more about how DWPI can shorten your time to insight and enable higher confidence decisions, contact our team.

[Request a demo](#)

About the author

Laura Bantle is an IP Solution Consultant at Clarivate. She is a registered U.S. patent attorney and is a member of the Minnesota Bar, with over 10 years of experience in IP due diligence, patent and legal research, litigation strategy, and contract drafting. Her primary goal is working with customers to successfully develop and implement their patent research, analytics, and portfolio strategy.

Laura earned her B.S. from the College of Biological Sciences at the University of Minnesota, and graduated magna cum laude from William Mitchell College of Law where she served as Editor-in-Chief of the Cybaris® Intellectual Property Law Review. Prior to joining Clarivate, Laura gained corporate industry experience in pharmaceutical regulatory compliance, patent licensing, and M&A due diligence.



Thank you

10 common pitfalls of patent research

Patent research is a critical task for informing R&D investment, identifying emerging competitive threats, evaluating potential infringement and making key business decisions.

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