Closing the confidence gap in patent search

Combining artificial intelligence and human expertise to scale smarter, search faster and reduce risk

Clarivate

Scaling patent search without sacrificing certainty

Patent search professionals are under increasing pressure to deliver fast, accurate patenting recommendations across a growing volume of invention disclosures, product iterations and patent publications from regional patent jurisdictions, each with its own language, legal standard and data formats. Whether assessing freedom to operate (FTO), patentability, or validity, the stakes are high and the margin for error is shrinking.

Yet traditional workflows can't always keep pace. Time constraints, resource bottlenecks and fragmented or unclear data can lead to incomplete or delayed searches, increasing the risk of infringement, underleveraged inventions or time wasted on patents that should have been knocked out sooner. The consequences are real: missed filing opportunities, delayed product launches, unplanned royalties, or, worse yet, costly litigation.

To meet these challenges, many intellectual property (IP) teams are turning to technology-enabled tools, including those based on artificial intelligence (AI) and machine learning (ML) models, to accelerate searches. But speed alone isn't enough. The question is whether they provide the accuracy and precision of traditional search methods. Without trustworthy data and transparent results, AI can introduce new risks, not reduce them.

This paper explores how patent professionals can scale their search capacity without compromising on quality. It shows how combining advanced AI technology with expert-authored content — such as Derwent World Patents Index (DWPI) — can help you:

- **Keep pace with demand** by using AI for rapid 'first pass' searches and powerful keyword search tools for deeper analysis
- **Reduce risk** by basing decisions on more than 70m expert-written patent summaries.
- **Work with confidence** using tools built for precision, transparency and global coverage.

By integrating trusted content with purposeful AI, you can streamline your workflow, improve decision-making and stay ahead in an increasingly complex and connected IP ecosystem.

Contents

The new patent search paradigm

Patent search professionals are no longer just information retrieval experts, they're now strategic partners in innovation, risk management and competitive intelligence. As patent volumes grow and product cycles accelerate, the pressure to deliver fast, accurate and defensible results has never been greater.

Traditional search workflows, built around manual Boolean queries, often struggle to keep up with the pace of invention. This is driving the adoption of AI-powered tools that can process large volumes of data quickly. But processing speed alone isn't enough.

AI search tools are only as good as the data they're built on. Without high-quality, structured and human-curated content, even the most advanced models can return irrelevant or incomplete results. That's why the most effective solutions combine AI with expert-authored patent summaries, enabling search professionals to triage, prioritize and act with confidence.

Derwent Patent Search delivers this unique combination: advanced AI trained on more than 70m expert-written summaries from **DWPI** — the gold standard in patent data.

Patent search professionals face increasing pressure to deliver faster, more accurate results, often with limited time and growing complexity. By combining AI-powered tools with expert-authored patent data, they can surface critical insights with greater speed, clarity and confidence.

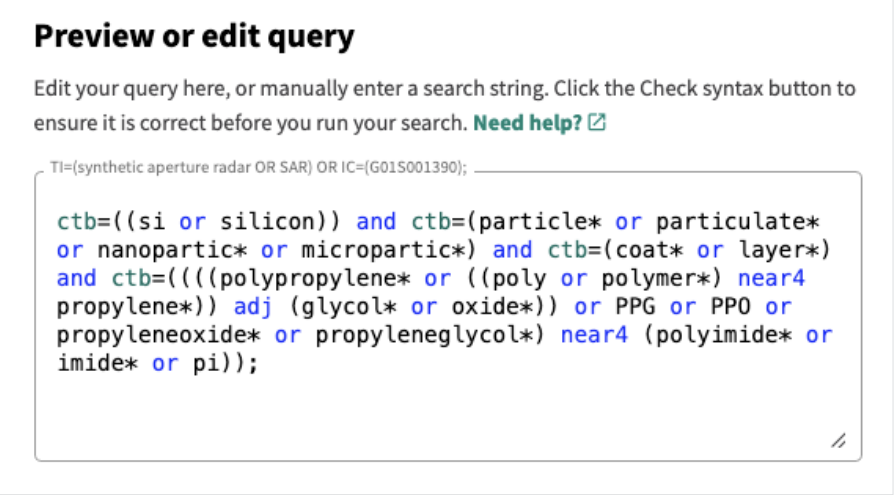
Boolean or AI search?

Patent professionals have long relied on keyword or Boolean search for its precision and control, especially in high-stakes invalidity, FTO and patentability assessments. When crafted well, Boolean queries can uncover highly specific prior art and support defensible decisions.

But precision comes at a cost. Building effective Boolean queries can be extremely time-intensive and requires deep domain expertise. Even experienced patent searchers often need multiple keyword search iterations to refine results — a process that doesn't scale easily across hundreds of disclosures or frequent product changes.

This creates a growing challenge: how can patent professionals maintain the quality of their craft while keeping pace with the volume and velocity of innovation? For example, even minor design updates may require new clearance searches. When IP teams can't keep up, the risk of missed prior art, blocked market access or costly litigation increases.

Figure 1: An example of a complex Boolean search query



The AI credibility gap

AI-powered search tools promise speed and scale, but many fall short on trust. Too often, they return raw, unverified and incomplete results with little context or transparency.

Analysts and researchers are left second-guessing the output, manually reviewing irrelevant documents and re-running searches, erasing the time savings AI was meant to deliver.

How Derwent helps

With **Derwent Patent Search**, you don't have to choose between speed and precision. The platform combines intuitive, AI-powered natural language search with expert keyword Boolean search tools, enabling a seamless workflow that supports both rapid triage and in-depth analysis.

Derwent AI Search is trained on more than **70m expert-authored invention summaries from DWPI**. This unique foundation ensures results are not only fast, but also context-rich, relevant and trustworthy.

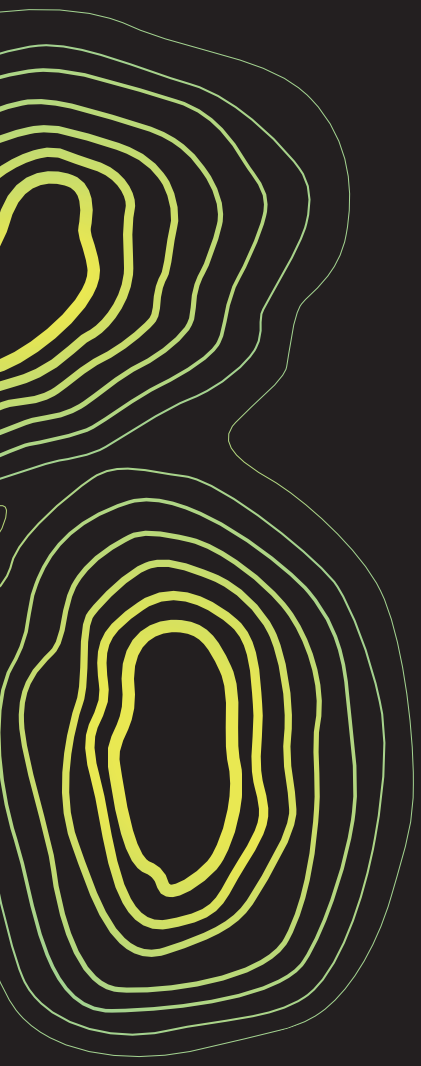
- **Searchers of all types** can quickly run 'first pass' searches using natural language input — easily using invention description language and ideal for triaging disclosures or identifying early risks.
- **Experienced patent analysts** can then refine those results using keyword-based Boolean logic, all within the same integrated workspace.

The result: faster, more confident decisions — without compromise.

"I've tried other AI-powered patent search tools, and Derwent AI Search is hands down the best. With other patent search tools, you often need to review up to 50 or even 200 results to find the most relevant records. With Derwent AI Search, the most relevant records are at the top of the list, which helps me save a lot of time evaluating patentability."

Susan Johsnon
Patent Agent and IP Researcher, Boston Scientific.

Tackling the capacity challenge



Patent search teams are under constant pressure to evaluate a growing stream of invention disclosures and product design changes, often with limited time and resources. When capacity is stretched, critical searches can be delayed or skipped altogether.

At the disclosure stage, this can mean missed opportunities to file first. And when even minor product features are not reviewed for clearance, the risk of infringement or blocked market access increases.

Missed opportunities

High volumes also make invention harvesting more difficult. Promising ideas may go unsearched — and unpatented — simply because there isn't time to evaluate them all using traditional search workflows. That opens the door for competitors to file first and gain an edge.

How Derwent helps

Derwent Patent Search helps patent professionals scale their efforts without compromising quality. Patent professionals can use AI-powered search to conduct a first-pass review of invention disclosures and then use Boolean search for those requiring more in-depth review.

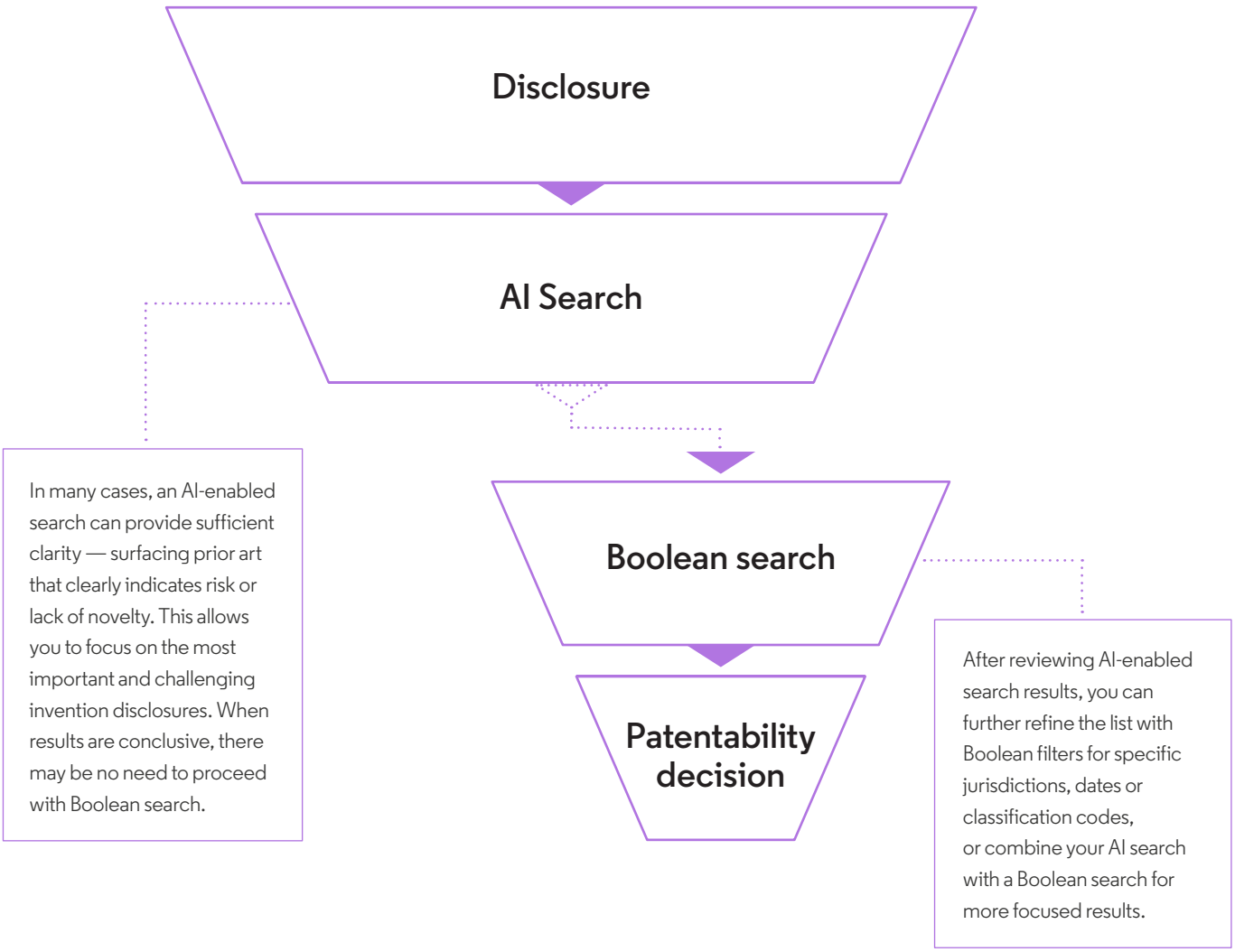
Because every result is supported by expert-authored invention summaries, teams can quickly assess novelty, use and advantage without wading through irrelevant documents.

The result: more invention disclosures are analyzed, and more inventions are protected.

70M+

human-authored invention summaries.

Figure 2: Invention disclosure assessment



How Derwent AI Search captures context to deliver relevant results

Most AI search tools rely on models that average the meaning of entire sentences or paragraphs into a single vector. While this can be effective for general-purpose search, it often misses the subtle technical distinctions that matter in patent and scientific literature.

What makes Derwent AI Search different

Its AI model uses a **context-preserving deep comparison technique** that evaluates the meaning of each word individually, not just the sentence as a whole. It compares every word in the user's query to every word in the document, identifying strong, specific matches that preserve semantic intent.

This allows the system to capture nuanced relationships — such as synonyms, domain-specific phrasing and functional equivalents — that other models often miss.

Example

Query
'A method for reducing latency in data transmission over a wireless channel.'

Derwent's AI identifies Document A as relevant
'Techniques for minimizing communication delay in cellular systems are disclosed.'

It deprioritizes Document B
'A method for managing wireless connectivity between devices.'

Why?
Because Derwent's model understands that:

- **'Minimizing delay' ≈ 'Reducing latency'**
- **'Data transmission' ≈ 'communication'**

A different AI model might treat both documents as equally relevant — or even prefer Document B — simply because it shares more surface-level keywords like 'wireless' and 'method.' But it would miss the functional equivalence between latency and delay — a critical distinction in patent search.

Why it matters

This context-aware approach helps users:

- Surface **more relevant results** — even when terminology varies
- Reduce **false positives** and irrelevant noise
- Give patent professionals **greater confidence** in what the AI finds, and what it doesn't

Embedding explainability into AI-powered patent search

A key advancement in AI-driven patent search is the integration of explainability directly into the user experience. Derwent AI Search exemplifies this by not only delivering ranked results from natural language queries, but also by pinpointing the precise content within each patent that triggered the match.

This capability — known as the AI Relevance Fragment — highlights the most pertinent section of the document, such as a paragraph, claim, or DWPI invention summary. By surfacing this context automatically, the tool enables analysts to assess relevance more efficiently and with greater confidence.

This enables analysts to assess relevance more efficiently and with greater confidence.

Revealing actionable information

Any search tool can return results. But patent professionals need results they can trust, and act on. When tools deliver long, unranked lists with no explanation of relevance or litigation history, they create more work, not less.

Patent analysts are forced to sift through irrelevant documents, manually verify matches and risk overlooking critical patents, including those that have been involved in litigation.

The result: wasted time, missed risks and reduced confidence in the search process.

The language barrier

Global patent search adds another layer of complexity. Professionals must often search across 100+ jurisdictions and multiple languages. While many tools rely on machine translation, these often miss linguistic nuance, obscuring key claims, introducing ambiguity, or causing relevant prior art to be overlooked.

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patent offices worldwide trust Derwent

How Derwent helps

Derwent Patent Search delivers results that are not only fast — but also transparent, ranked and context-rich.

- **Relevance ranking** puts the most important results at the top — helping analysts focus on what matters first.
- **Expert-authored invention summaries** clearly state novelty, use and advantage — accelerating review and reducing ambiguity.
- **Standardized English abstracts** eliminate language barriers.
- **Integrated litigation and opposition data** from 140+ countries ensures no hidden risks are missed.
- **Purpose-built for patent search** with comprehensive global patent data, 300 searchable fields and easy-to-use tools for saving, updating and combining your searches.

With Derwent, search professionals can move from results to decisions faster and with greater confidence.

The future of patent search

At Clarivate, we believe the future of patent search isn't **AI or human expertise**; it's **AI and human expert insight**. That's why **Derwent Patent Search** combines advanced AI models — trained on industry-leading, human-authored DWPI patent data — with our powerful keyword search tools built for precision.

The result is a platform that enables patent professionals to search without compromise: fast when it needs to be, rigorous when it must be and always grounded in trustworthy data.

With Derwent, patent search teams can scale to meet growing workloads, reduce risk and protect innovation — all while making faster, more confident decisions.

What sets Derwent Patent Search apart?

Reliable AI patent search
Built on an advanced ColBERT language transformer model, trained on the industry's most trusted patent content, validated through extensive human testing and quality control to ensure consistent results you can trust.

Human-authored invention summaries and enriched patent data
Comprehensive normalized patent data from 109 jurisdictions and 70m+ human-authored invention summaries.

Integrated global litigation data
Litigation case details from 140+ jurisdictions clearly connected to patent records for clear insights and confident FTO decisions.

Lead the way with Derwent

To learn more, visit: **clarivate.com/derwent**

Request a demo

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About Clarivate

Clarivate is a leading global information services provider. We are the partner law firms and companies rely on to transform the way they create, manage and protect intellectual property. Our comprehensive intellectual property data, software and expertise helps companies drive innovation, law firms achieve practice excellence, and organizations worldwide effectively manage and protect critical IP assets. Clarivate is home to Derwent, CompuMark, Darts-ip, IPfolio, FoundationIP and other leading IP solutions.

To learn more, visit **clarivate.com/ip**

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