

FIVE OFTEN OVERLOOKED IP GAPS THAT CAN DERAIL **YOUR** **INNOVATION** **STRATEGY**

Is your IP strategy maximizing
the value of your portfolio
or exposing your business
to market risks?

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For R&D organizations, intellectual property (IP) is the currency of innovation, supporting potential acquisitions, safeguarding revenue streams, and driving business growth.

To ensure you are maximizing the value of these intangible assets, a robust IP strategy is required. However, keeping on top of IP planning, monitoring, and management can be challenging, leaving gaps that can put an organization's overall innovation roadmap and commercialization plans at risk.

IP strategy gaps can jeopardize an organization's long-term success in many ways. Insufficient awareness of the dynamic IP landscape in your technology space could, for example, result in missing a competitor infringing on one of your patents or failing to capitalize on a novel commercial opportunity. **Insufficient IP management can also leave you at risk of underestimating the value of your existing assets.** For some organizations, resource constraints are a primary cause of these gaps;

IP STRATEGY GAPS CAN LEAVE YOU AT RISK OF UNDERESTIMATING THE VALUE OF YOUR EXISTING ASSETS

however, many organizations are simply not prioritizing sufficient focus in this area and are unnecessarily opening themselves up to major financial and competitive risks.

This paper highlights five often overlooked IP gaps our team frequently encounters while working with R&D organizations of all sizes around the world; helping you reduce risk, avoid costly surprises, and maximize the value of your IP portfolio.



1. ARE YOU PROACTIVELY MONITORING YOUR IP ASSETS AND THE RELEVANT LANDSCAPE?

As the volume and value of IP-driven commercial transactions grow, the financial evaluation of IP assets is becoming increasingly important to R&D organizations. In fact, the value of intangible assets as a percentage of an organizations' overall market valuation has more than doubled for the S&P 500 in the last 30 years [1]. IP valuations are now widely used to inform business mergers and acquisitions, patent portfolio adjustments, licenses and litigations.

The first step to building a robust IP strategy is to take stock of your organization's current IP assets. This might sound straightforward, yet many businesses, large and small, find keeping track of their IP more challenging than they initially expect. In fact, a recent IP report noted that more than **40% of IP stakeholders surveyed felt they did not have sufficient information on their own IP portfolios** to support valuation [2]. Company mergers, internal restructuring or rapid business growth can make it surprisingly easy to lose sight of what's in your R&D portfolio, especially if

different teams use different systems or terminology and do not harmonize their data.

Once you've got a firm grasp on your own portfolio, it's important to maintain the value of these assets and competitive awareness by actively monitoring the external IP landscape. Though most R&D organizations monitor patent publications from known competitors in some way, many do not have a specific strategy in place to monitor broadly for infringement of their IP. This puts them at high risk for missing IP from new market entrants or tangential players expanding their reach. Many also fail to monitor relevant IP outside of their current geographic markets.

40%

OF IP STAKEHOLDERS FELT THEY DID NOT HAVE SUFFICIENT INFORMATION ON THEIR OWN IP PORTFOLIOS

3 STEPS TO BETTER IP PORTFOLIO MANAGEMENT

- 1 Perform an IP audit to identify all relevant assets and their current legal status.**
- 2 Build a searchable database or inventory that provides clarity around important details of your existing IP to make sure this information is easily accessible moving forward.**
- 3 Implement processes to keep your internal IP database up-to-date.**

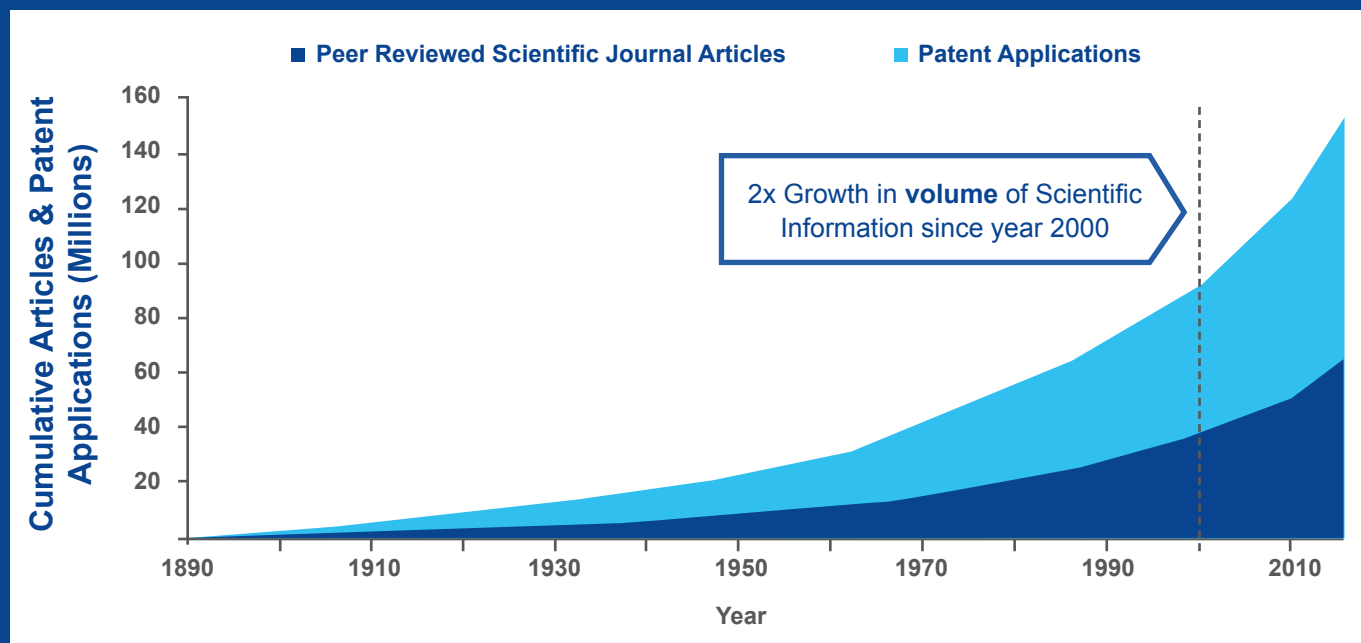
However, this is short-sighted, as a foreign patent that does not impact your business today is an early warning of technology that may be extended to a market relevant to you in the future.

It is not surprising that many organizations struggle to comprehensively monitor their relevant IP landscape. The task is daunting, and with the volume and complexity of disclosed IP growing at a nearly exponential rate (Figure 1), it is getting more daunting by the day. However, there are high-quality tools and partners available that can make the job easier. Most government patent office websites will

allow you to search by criteria such as keyword, inventor and publication date. Common internet search engines can also be used to set up alerts on specific topics. Though this approach is better than not monitoring at all, **using public search tools can in some cases introduce security risks and the coverage of these platforms is limited.**

Furthermore, their search capabilities often do not provide all the results that are relevant to a particular subject. Alternatively, a broad query that lacks precision can drown you in irrelevant results that you do not have time to review.

Figure 1: Growth in volume of global published scientific literature over time



Sources: CAS Content Collection, WIPO Statistics, Canadian Science Publishing

Given the legal and financial consequences that can result from missing critical IP disclosures, many organizations choose to invest in more powerful commercial tools to support IP monitoring or outsource this work to experts at an IP search service or law firm. As we will discuss in depth later, specialized platforms offer increased search functionality and can provide a single source for all your IP needs, allowing you to quickly access the most relevant information, confident in the coverage and completeness of the results you obtain.

MAINTAINING AN AWARENESS OF THE DEVELOPING IP IN YOUR SPACE IS VITAL TO STAY AHEAD OF EMERGING TRENDS

Whether you choose to do it yourself or outsource, having an active process and appropriate resources to monitor not only your own assets but also the dynamic IP landscape relevant to your innovation strategy is a critical pillar for an effective IP strategy.

2. ARE YOU MISSING IP DISCLOSED BEYOND PATENTS?

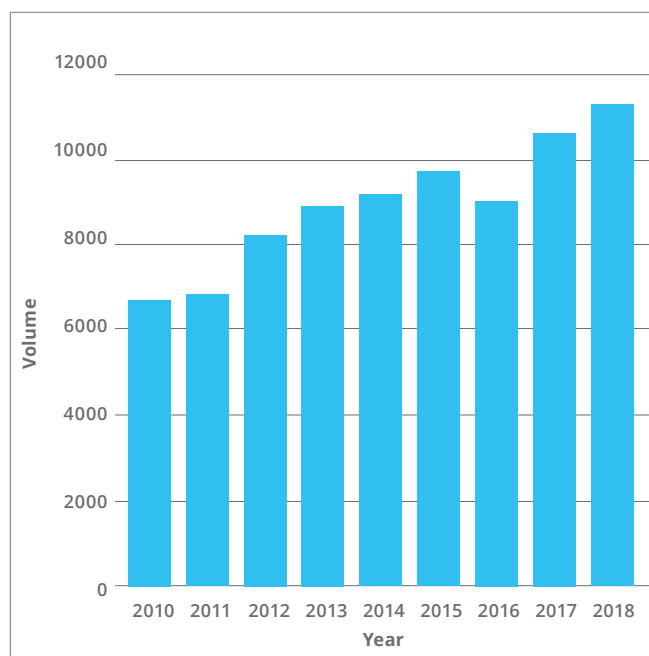
Though patents are often the first thing people think of when discussing intellectual property, IP disclosures can happen in nearly any public source. The

disclosure of novel commercial inventions can be found in an increasingly broad range of sources, including journal articles, conference proceedings, academic dissertations, videos, and many other formats.

“Although patents dominate the volume of new disclosures, non-patent literature is an essential, and often overlooked, source for IP research that is not readily accessible for many,” notes Matthew McBride, the director of CAS IP ServicesSM.

One trend that is influencing where IP is being disclosed is the increased role of academic researchers in commercial R&D. With traditional

Figure 2: Volume of patents with joint academic and corporate assignees by year



Source: CAS Content Collection

funding sources squeezed and commercial R&D models shifting, academic institutions and commercial entities are increasingly partnering on R&D (Figure 2). However, the fundamental cultural differences between commercial and academic environments have significant implications for the dissemination of the knowledge and discoveries that are generated as a result of these collaborations. While industry has long used patents to protect IP, they are not the traditional end-goal of academic researchers, who instead usually publish journal articles, present at conferences, and write dissertations. Although universities and other institutions have been adopting a greater focus on IP in recent years, with the growth of technology transfer programs, most of the discoveries of academic researchers are still published elsewhere.

To ensure a complete view of the relevant innovation landscape and avoid IP blind spots, these sources need to be thoroughly searched and monitored. As a result, it is increasingly important that your IP management strategy extends beyond simply monitoring relevant patent publications, and instead encompasses the full breadth of the innovation space. IP search solutions that provide a unified approach to information contained within patents and a wide variety of non-patent publications are therefore key to driving innovation by making this critical insight fast and convenient to access. CAS solutions that give you access to human-curated datasets covering both journals and patents can be particularly valuable in connecting multiple publications about single inventions, which often have minimal overlap in title and authors, that result from these commercial and academic collaborations.

3. DO YOU HAVE A KNOWLEDGE TRANSFER AND SUCCESSION PLAN?

In many organizations, IP used to be the exclusive domain of a small number of experienced attorneys and highly knowledgeable patent search experts.

Today, the range of people who are responsible for understanding IP in many R&D organizations is expanding, especially in the early stages of the innovation process. With this expansion comes an important challenge: the nuanced legal and technical knowledge that takes decades of experience to build is not always as acute for these individuals. These knowledge gaps can result in wasted research investment if relevant IP is overlooked or if promising ideas are discarded too early due to an incorrect perception that the IP space is too crowded.

For this reason, it is essential that everyone involved in IP assessment, from scientists to business decision makers, has high-quality information available to inform confident decisions at each phase of the innovation lifecycle. All stakeholders must also be aligned on roles, processes and standards for assessing IP and these should be properly documented. To accomplish this, it is often necessary to clearly assign responsibility for the ongoing education of all IP stakeholders to someone in the organization. This ensures everyone understands the impact and inherent risks associated with key IP decisions.

Documentation becomes even more critical if the dedicated patent analysts and search specialists that organizations have relied for many years are nearing retirement or moving on to other roles. In some cases, these roles are not being replaced, or are being replaced by people with different skill sets, resulting in the loss of a key source of knowledge and expertise. Professional IP analysts spend years developing highly detailed search strategies relevant to the specific technologies and sectors particular to individual organizations.

These strategies constitute their own type of intellectual property and provide a unique competitive advantage to the organization. It is therefore extremely important that these assets are retained as roles transition.

For those organizations that no longer have dedicated IP search experts or have a single individual filling this role, it is also important to identify a trusted expert resource you can turn to as needs arise. Trusted search service providers, such as CAS IP Services, are a critical resource to fill organizational talent gaps and provide backup coverage or a double check as needed. High-quality search services leverage extensive experience in IP as well as technical domains to deliver custom searches and analyses, so that companies can make well-informed decisions. Law firms often outsource this work to third parties, as IP search is a specialized skill that is not a core competency of most attorneys. Having an active role in choosing who your law firm partners with to do this work can have a tangible impact on your IP strategy and may result in cost savings if your firm can leverage your organization's existing contracts for search services or tools.

KNOWLEDGE GAPS CAN RESULT IN WASTED RESEARCH INVESTMENT IF RELEVANT IP IS OVERLOOKED OR IF PROMISING IDEAS ARE DISCARDED TOO EARLY DUE TO AN INCORRECT PERCEPTION THAT THE IP SPACE IS TOO CROWDED

4. COULD YOUR PARTNERS BE PUTTING YOUR IP AT RISK?

Security is a critical but often overlooked part of maintaining the value of your IP portfolio. In some cases, bad actors may be looking to steal IP information. However, accidental disclosure of information by staff or third-party vendors is what more commonly leads to unintentional sharing of IP. In fact, accidental publication of confidential information has a greater impact than that of hackers or other external security threats [3].

Throughout the research and commercialization process, your IP travels through many hands and across many different platforms. Consistent training in IT and IP security and a robust IP management process can help companies ensure they doing a good of job securing this internally. However, it can be more difficult to control how information

is managed when working with external research partners, including academic collaborators and contract research organizations. Service partners such as law firms, search services, and contractors will often outsource work also, so it is important to consider their working practices and determine if they have necessary measures in place to protect your IP as diligently as you do.

To be sure, **ask your partners how they store, manage and share information, and identify the steps they take to maintain the integrity of your IP.** Make sure key security measures and expectations are captured in your contracts as well. A partner that's confident in the security of their workflows will be happy to outline how they'll protect your IP.

8 KEY QUESTIONS TO ASK YOUR IP PARTNERS


- 1** What policies do you have in place to ensure the security of any IP we share with you?
- 2** What platforms are you using to search and store our confidential IP information?
- 3** Do you allow outside parties to access search queries or make them subject to public records laws?
- 4** Do you outsource IP work to any additional third parties, and if so, where are they located and how do you vet them?
- 5** Do you complete background checks on your employees?
- 6** Are your employees provided with regular training regarding IT and IP security best practices?
- 7** Has your organization ever had an IT security breach or an unauthorized IP disclosure incident?
- 8** Are you actively doing work with any of our competitors, and if so, how do you ensure that there is no potential for IP disclosure?

5. COULD SPECIALIZED TOOLS HELP YOUR IP WORK BE MORE PRECISE AND EFFICIENT?


As discussed throughout this paper, making sure all IP stakeholders have convenient access to comprehensive and up-to-date information is key to the success of any IP strategy. Having the right tools is particularly important when it comes to navigating the scientific IP landscape. Scientific innovation is often communicated beyond words. IP is also captured in chemical structures, sequences, drawings, graphics, tables, charts, and so forth. It's also increasingly global, with patents published in patent offices around the world, in a variety of different languages. As research becomes more interdisciplinary, new innovations also often span multiple scientific disciplines and have the potential to impact a wide range of other fields and technologies. All of these factors make effectively monitoring and searching relevant IP a challenge.

To confidently and efficiently identify the latest IP developments in your field, it's therefore essential to use the right search tools. Unfortunately, though convenient, ordinary search engines are not built for complex scientific information, and an over-reliance on these platforms can leave gaps in your view of the field. Closing these gaps requires specialized tools that can locate all the relevant results for your specific query. Matthew McBride of CAS IP Services agrees, stating "Access to specialized databases with the broadest possible coverage is critical to timely, confident and cost-effective IP searches."

Here are some examples of specialized tools that enable precise IP search and analysis:

 **Chemical structure searching** - In chemistry, chemical structures are the most common way to represent new compounds, and Markush representations in patents allow chemists to describe a range of related chemical substances. Though highly efficient for describing chemistry, these

representations cannot be searched without a specialized tool that allows you to draw out the structure and define relevant search criteria. These tools, such as STNext® and SciFinder, are built upon a human-indexed chemistry content collection that makes this type of searching and analysis possible. Be sure you know what is behind your search however, as some platforms allow chemical structures to be drawn but then convert them to text strings or names for searching, greatly reducing the effectiveness and precision of your search.

 **Numeric property searching** - In the engineering field, properties such as viscosity, electrical conductivity and luminous intensity are a key aspect used to describe inventions. However, they are often expressed as ranges in patents, making a precise search difficult. Numeric property search features in STNext allow you to enter a specific value or range for many properties and will find all cases where the claimed value or range overlap, even converting the units as necessary. Precision features like this can save many, many hours of reviewing IP search results for relevance.

"ACCESS TO SPECIALIZED DATABASES WITH THE BROADEST POSSIBLE COVERAGE IS CRITICAL TO TIMELY, CONFIDENT AND COST-EFFECTIVE IP SEARCHES."

Matthew McBride of CAS IP Services

CAS PatentPak

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Key Substances in Patent

▼ More Locations

CAS RN 1124167-61-8

Analyst Markup Locations (14)

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- Page 53
- Page 53
- Page 54
- Page 56
- Page 84
- Page 86

▲ Fewer Locations

CAS RN 1124167-62-9

Analyst Markup Locations (16)

[0012] Examples of non-peptide MOR antagonists include without limitation:

-continued

NAP

NNQ

NAQ

NCQ

Thesauri and semantic search – Each scientific field develops its own unique vocabulary and often practitioners within each field are not consistent in the terminology they use. This is especially true in rapidly evolving fields. When monitoring IP, it is important to ensure that all relevant terminology is being searched to get complete retrieval. Thesauri and semantic search enhancement tools are very helpful in identifying additional terms that are likely relevant to your interest, either searching them automatically or allowing you to pick those you want to include. These tools are particularly valuable for individuals that may be searching in a field outside of their domain expertise or trying to identify terms in a foreign language.

CAS PatentPak™ – Finding relevant publications is only the first step in IP search or monitoring. Once a relevant document is identified, it must be obtained and reviewed. With numerous global sources to access and patents often exceeding 100 pages, this can be very time consuming. PatentPak is a solution that provides IP stakeholders direct access to the PDF of the patent, and in the case of chemical patents, also takes them directly to mentions of the relevant chemistry, saving hours of review time.

IP CHECKLIST FOR LEADERS

- ✓ Develop a searchable database including key details of your IP assets
- ✓ Participate in regular reviews of IP portfolio, strategy, and opportunities
- ✓ Assess the quality and efficiency of current IP tools and address opportunities
- ✓ Review the security practices of current partners handling your IP
- ✓ Add IP security language to all relevant contracts
- ✓ Assign clear internal responsibility for managing IP processes and documentation
- ✓ Initiate regular staff training on IT and IP security best practices
- ✓ Check if your law firm can use any of your existing IP tools under your agreement to reduce costs
- ✓ Identify the best-in-class outsource partner to provide IP search and analysis when needed

Though specialized tools like these usually require a paid subscription, they are almost always a valuable investment for innovation-driven organizations that have so much invested in their IP. By ensuring stakeholders have a complete view of the landscape and enabling IP information to be found more efficiently, these tools deliver return on investment by providing comprehensive results, shortening the time to find answers and insight, and ultimately facilitating more rapid and confident decision-making. When balanced against the potential financial, strategic and reputational risks of missing key IP, the costs are relatively small, and as the exponential growth of published knowledge continues to accelerate, these specialized tools will only become more critical and deliver greater value to innovators.

For organizations that do not license commercial IP search tools, partnering with a search service, such as CAS IP Services, can provide high-quality IP insight and expertise on a cost-efficient per-project basis.



CLOSE IP GAPS TO MINIMIZE RISKS AND MAXIMIZE THE VALUE OF YOUR ASSETS

Your IP is a critical asset of your organization and a key pillar of your overall innovation strategy. However, even the most diligent organizations often find they have overlooked opportunities and risks in this area. If your organization is not actively focusing on your IP planning, monitoring, and management strategies and the processes and tools that support them, you may be opening yourself up to unnecessary risk or letting growth opportunities slip through your fingers.

To guard against unanticipated IP oversights and gain a competitive edge, many R&D organizations

are turning to partners, such as CAS, that specialize in IP information solutions. These solutions can take the form of powerful, specialized search tools that make navigating the IP landscape as simple and efficient as possible, or services that allow businesses to take advantage of CAS's expertise in IP as well as a wide range of scientific disciplines. CAS has the content and experience needed to help businesses assess their current IP strategy and determine what is needed to mitigate risk, capture opportunity and stay ahead of the competition.

Contact CAS to get a customized assessment of opportunities to improve the efficiency and effectiveness of your IP management strategy.

REFERENCES

- 1 Ocean Tomo, Intangible asset market value study, (Accessed June 2019) <https://www.oceantomo.com/intangible-asset-market-value-study/>
- 2 Aistemos, IP Strategy Report, April 2017
- 3 Accenture, Gaining ground on the cyber attacker: 2018 state of cyber resilience

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