



CASE STUDY



Australian Government
IP Australia

Australian Trade Mark Search – Australia

Over 87% of a company's value is rooted in its intangible assets, including brands and trademarks that represent the identity of a business (Stathis, 2015). A good trademark is a way of identifying a unique product or service in the marketplace. It distinguishes a company's brand identity from others in the same or a similar industry. This initial step is a critical foundation upon which the rest of the business is built. However, the steps to ensure the uniqueness of a company's brand are difficult and time consuming. IP Australia, the government agency that administers intellectual property (IP) rights in Australia, has launched Australian Trade Mark Search⁷⁸ to help businesses thrive in a global economy.⁷⁹ Powered by industry partner TrademarkVision's revolutionary image recognition and AI technology, the solution provides security for businesses by protecting their most important assets and has significant global applicability.

78. See <https://search.ipaustralia.gov.au/trademarks/search>.

79. See <https://youtu.be/CKzx0mKt9PU> for a demo video.

Trend 1: Identity

THE PROBLEM

The value of brand identities continues to grow internationally. In 1975, it was estimated that 80% of the value of top companies were tangible assets. In 2016, the situation has reversed with more than 87% of the value of top companies consisting of intangible assets – including brand identity (Stathis, 2015). There are approximately 31.5 million trademarks in force globally and at least 8.5 million trademark applications per year. There are over 70 000 applications per year in Australia alone, ranging from individuals or small businesses interested in registering their first trademark through to multi-national corporations. If a business applies for a trademark that is too similar to an existing trademark, it is rejected. This can result in loss of time and money for the applicant, especially if they have already entered the marketplace. If a business does not apply for a trademark, they may miss the opportunity to secure their most valuable asset.

Millions of trademarks must be considered before a new businesses or product can enter the market. Searching trademarks allows businesses worldwide to make informed decisions around their branding strategies. Moreover, an effective trademark search conducted before entering the market can provide invaluable business insights that have cascading effects for the future of the business. Having a system in place that enables members of the public to search trademarks is therefore vital. Australia has had the ability to search electronically for trademarks since the 1990s, but the system was highly complex, requiring words to search visual elements in an existing database of brand identities. IP Australia has a unique glossary of over 3 500 English word terms describing visual elements of trademarks. Previously, this was the only way to search visual elements (see Figure 19).

Novice users found the process nearly impossible and even specially trained experts expressed frustration at the complexities involved. For many, the use of text-based searches to locate images similar in visual appearance was inherently difficult. It could also lead to lack of awareness among businesses of existing trademarks similar to their own, which could result in expensive rebranding processes or potential lawsuits.

AN INNOVATIVE SOLUTION

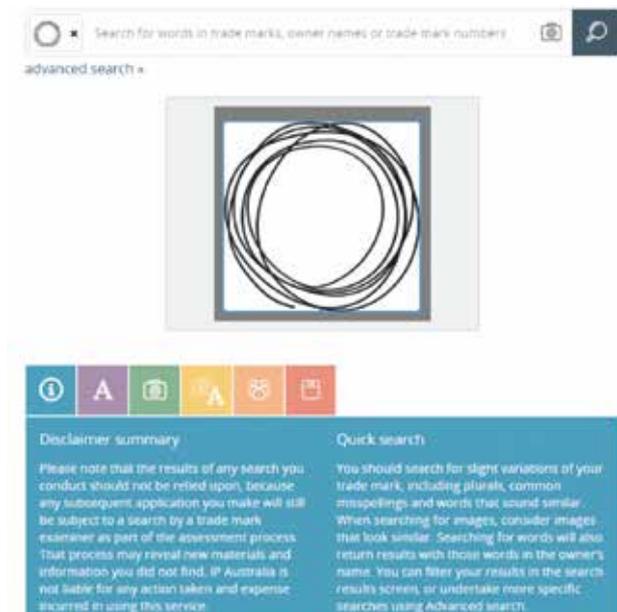
To help Australian businesses launch as early as possible with a successful brand identity strategy, IP Australia decided to rethink their approach by adopting industry-leading practices and pushing the boundaries of trademark search systems. They assembled a small, multi-disciplinary team (see Figure 23) and empowered them to work innovatively. In February 2017, they launched the Australian Trade Mark Search. The new system leverages revolutionary combined image searching and machine-learning technology to drastically simplify trademark searching and break down barriers for users. Instead of using text descriptions to search for brand identities, users can upload a logo and instantaneously search IP Australia's database of 400 000 images, which then returns trademark results based on visual similarity through image recognition. The process renders image searches more achievable for businesses, both in Australia and globally, not least because it is language independent, an important factor in the global market (see Figures 20 and 21). It also helps to increase the quality of trademark applications in Australia, delivering greater economic benefits to Australian business. As a result, fewer businesses will file applications for trademarks similar or the same as previously registered trademarks, and can have greater confidence in the applications they file.

Figure 19: Previous trademark search using words

The screenshot shows the IP Australia 'Basic Search' interface. On the left is a navigation menu with options like 'Search', 'Refine Search', 'Search Results', 'Search List', 'Customise', 'Goods/Services', 'Search Tools', 'Apply Online', 'End Session', and 'Help'. The main content area is titled 'Basic Search' and contains a search form. At the top of the form is a warning: 'WARNING: Please note that the results of any search you conduct are not binding and that any subsequent application made will still be subject to a search by a trade mark examiner.' Below this, there are several search criteria fields: 'Word/Image' with a dropdown for 'Exact image' and 'Part word'; 'Class(es)' with a dropdown for 'Associated'; 'Trade Mark Status' with a dropdown for 'Registered'; and 'TM number range' with a dropdown for 'Greater Than'. There are also checkboxes for 'Non-visual search containing %*,? and _ (valid on Exact Word only)' and 'If searching for an image, you need to use the appropriate image terms'. At the bottom of the form, there is a section for 'You can also search by trade mark number:' with a 'TM Number List' field. The interface includes 'Search' and 'Reset' buttons for both the main search and the TM number search. A sidebar on the left shows the user is logged on as 'ANONYMOUS' and has 0 records in their list.

Source: IP Australia.

Figure 20: Australian Trade Mark Search by image

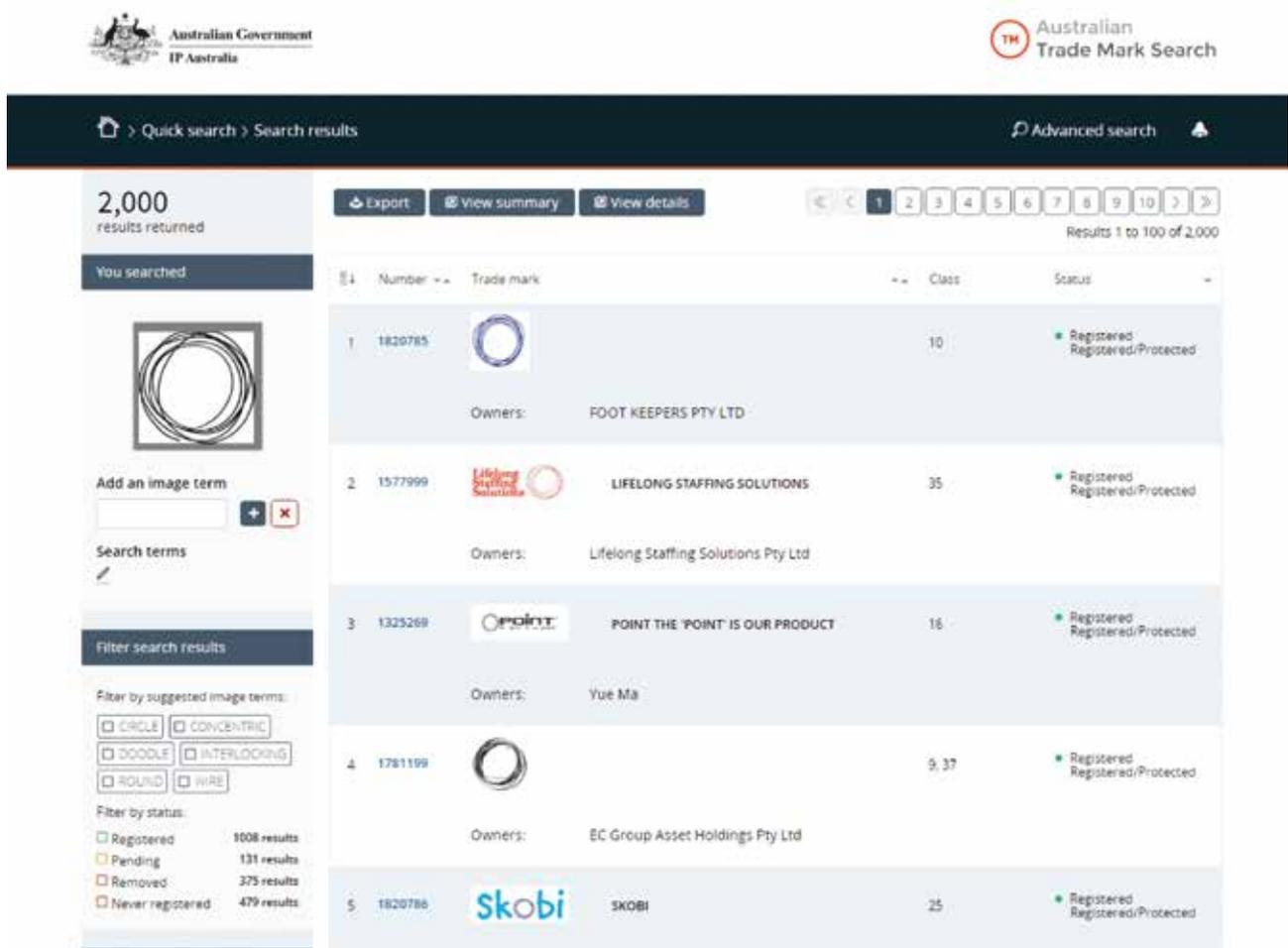


Source: IP Australia.

In developing the system, IP Australia collaborated closely with private sector partners and the Australian start-up TrademarkVision, identified through an open tender process. They also worked closely with users to understand their needs, including through face-to-face codesign sessions and exposure to alpha (prototype) and beta (test) systems as the project progressed. The use of state-of-the-art technologies and agile delivery processes resulted in the development of Australian Trade Mark Search as a platform for continuous improvement over time, as user needs, expectations and technical capabilities change. This will allow the service to evolve iteratively, ensuring its continued relevance and success, according to IP Australia leaders.

The success of Australian Trade Mark Search for brand identities has led IP Australia to expand the technology into other IP domains. The next public-facing IP Australia search solution will be Australian Design Search, which will allow users to search registered industrial designs using images.

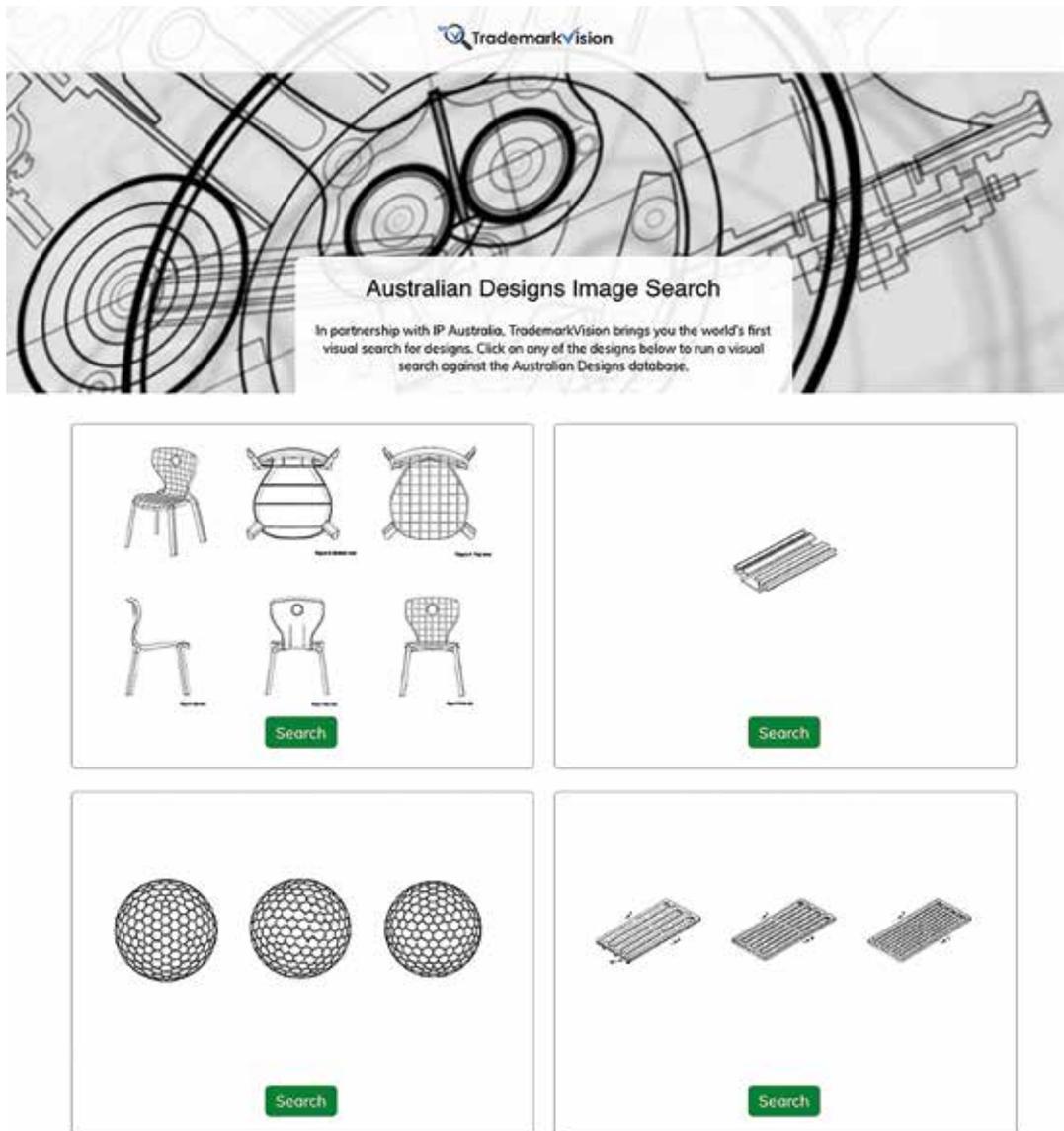
Figure 21: Australian Trade Mark Search results



Source: IP Australia.

Trend 1: Identity

Figure 22: Australian Designs Image Search



Source: IP Australia.

IP Australia was the first IP office to provide a public demonstration of this capability (see Figure 22). This world-first initiative has generated interest at international conferences and among Australian bodies for industrial designers, as it has the potential to greatly simplify the process of searching registered designs in Australia. As industrial designs are exclusively visually based, image recognition has great potential to help businesses understand whether their product is sufficiently new and distinctive to be registered for design protection, or if they are at risk of infringing on another registered design.

In the future, IP Australia will extend the functionality of this technology to patents and plant breeder's rights.

NOVELTY

Image recognition technology is most commonly photo-based and used to identify life-like objects in images (e.g. automatic image tagging on Facebook). Very few trademarks contain photos or life-like objects. The vast majority are highly stylised or cartoon representations of things. This makes Australian Trade Mark Search, and the underlying technology from their partner TrademarkVision, a unique and specialised form of image recognition technology. Trademark search systems, some of which use image recognition, have been available for some time, but the Australian Trade Mark Search technology disrupts this field by using machine learning algorithms to detect objects within a trademark image.

RESULTS AND IMPACT

One year after its launch, Australian Trade Mark Search is receiving over a million views per month. IP Australia has seen a 54% reduction in calls related to trademark searching, demonstrating greater ability on the part of businesses to meet their own information needs, and saving Australian businesses time and money. Knowledge of, and conversations around, Australian trademarks in the media and among small business and start-up networks continues to mature. This in turn helps businesses to launch quickly with unique and compelling brand identities, which are crucial for competitiveness in the global marketplace. Australian Trade Mark Search also leads to efficiencies within government, as trademark examiners now use the system to evaluate trademark applications with greater ease and speed than before.

The novelty and success of Australian Trade Mark Search is also being recognised on the world stage. The system is considered to be exemplary and is influencing and inspiring many other governments. International IP offices continue to reach out to IP Australia to understand how to develop similar solutions that will influence millions of businesses worldwide, from the world's largest corporations to the smallest start-ups. IP Australia was awarded the silver medal in the 2017 Prime Minister's Awards for Excellence in Public Sector Management.⁸⁰ In addition, *Fast Company* magazine recognised its partner, TrademarkVision, as one of the world's 10 most innovative companies for AI and machine learning.⁸¹

USER PERSPECTIVE

IP Australia conducted a survey among novice searchers on their experience with the new image search tool. Out of those that responded, 87% found the system "easy to use". This represents a dramatic improvement on the previous search system. Feedback from users also described the new tool as "very fact and informative", "much better than the [previous] website" and "so much more user friendly".

CHALLENGES AND LESSONS LEARNED

One of the core challenges IP Australia faced was identifying novice users. Over a third of the system's users are first-time or one-off searchers. While their interactions with IP Australia are often short-term, they remain an

important segment. To locate such users, IP Australia attended small business and start-up events to meet those who were familiar with the system and those who had yet to try it. As a result of these interactions, they realised that two modes were necessary: a quick search mode for more casual users, and an expert mode for advanced users, many of whom worked in the legal sector or in-house for large corporations.

Working closely with these and other users in their own environments helped IP Australia to understand their uses and needs. This broad research and user-centred focus also helped to identify existing products that met needs, while highlighting the importance of agility and flexibility for future use. This led IP Australia to determine that a custom solution was necessary. Without this process, they would have likely chosen an off-the-shelf solution, which would have resulted in compromised outcomes and costly remediation.

Another critical lesson learned during the innovation lifecycle and resulting success of Australian Trade Mark Search was the extensive due diligence performed on available solutions in IP and similar industries, according to IP Australia officials. During the development phase, IP Australia approached other IP offices around the world and evaluated many potential solutions available on the market.

Figure 23: The IP Australia team



Source: IP Australia.

80. See www.act.ipaa.org.au/pms%20awards-winners2017.

81. See www.fastcompany.com/company/trademarkvision.