CWS/ATR/PI/2020/AU

Annual Technical Report on Patent Information Activities in 2019 submitted by

I. GENERAL OVERVIEW OF RECENT DEVELOPMENTS IN PATENT INFORMATION ACTIVITIES CARRIED OUT BY THE OFFICE

Outline of main policies and plans aimed at development of patent information activities and expected time frames for their realization

IP Australia's vision is to deliver world leading IP services that are modern, effective and efficient to ensure all Australians benefit from great ideas, through administration of IP rights including patents. While focus on innovation and being a leader in digital services will continue, COVID-19 has seen demand for IP rights fall across the globe. As a result of the projected impacts of the COVID-19 pandemic, IP Australia has chosen to reduce capital investment budget in 2020-21 and focus our on critical activities that transform service delivery for the benefit of our customers, including on tools to support patent examination and administration.

Improvements in patent searching

IP Australia created two new tools to assist with patent searching:

- *Automated Preliminary Search (Non- OPI search addition)* - The Automated Preliminary Search tool executes an automated search query at the start of the examination process, looking for potential prior publication by the applicants or inventors named in a patent application. The tool searches IP Australia's non-open to public inspection (OPI) database, as well as an external OPI data source. The default query is based on the applicant and inventor names, as well as Cooperative Patent Classification (CPC) and International Patent Classification (IPC) symbols, and can be further refined by users. Natural language processing (NLP) is used to compare the potential citations with the input application and provide a relevance ranking to the user. This tool was released on 8th July 2020, with several Continuous Improvement (CI) releases made since.
- *Family Member Analyser (FMA)* - The FMA tool provides patent examiners with direct links to family members and documents from their electronic dossiers, where available. The tools uses NLP for comparing the published claims of family members to those of the input application, allowing examiners to quickly identify the most closely related family members and the prior art cited against these. This tool was released in September 2020 with several CI releases made since.

Other Patent examination process improvement tools:

- The *Patent Modernisation Initiative (PMI)* – This is a series of projects modernising IP Australia's back-end patents systems and processes. This includes both infrastructure upgrades and process improvements, including replacing manual processes with built in task workflows and/or automation, a new citation manager, and efficient reuse of data between systems. This aims to improve examiner and administration efficiency and quality. It will integrate with the other tools mentioned herein, such as Patent Auto Classifier, FMA, and Automated Preliminary Search. To date CPC/IPC classification and National Examination have been delivered.
- *Patent Auto Classifier (PAC)* - PAC uses a machine learning model to allocate classification symbols to patent applications so that they can be automatically routed to the appropriate section for full classification and examination. The model was already in use for international (PCT) applications since 2018 and was delivered for national applications in 2020.
- *Innovation Lab* – is a space providing early access to tools and services in early proof of concept and alpha stages, and demonstrating capabilities to better collaborate with business users.

Improvements in examiner training and development

In 2020, IP Australia refocused patent examination training resources and material to be suitable for online learning. New patent examiners were able to progress through training as successfully as earlier intakes who were trained in the office. This was due to COVID-19 movement restrictions, which inhibited traditional face-to-face training.

Improvements in providing data to the public for analytical purposes and for internal reporting

The Data Front Door & Analytics team was established as the single point of contact for data services. The team develops open data products for release, provides information for operational, corporate and strategic planning processes and provides analytics and data services tailored to internal and external audiences. The team also plays a role in supporting IP Australia's Senior Executives with evidence-based advice to guide strategic and business decisions.

IP Government Open Data (IPGOD) is an open dataset that covers each of the four types of IP rights administered by IP Australia (Patents, Trade Marks, Designs and Plant Breeder's Rights) and captures information on the application process and its results. This is updated annually.

Data extraction methods have continued to be improved to maximize the accuracy, reliability and data coverage of the IPGOD product. Notably, IP Australia has improved its approach to entity resolution, providing a consistent identifier for filing activities of entities and organisations across all four IP rights. To enable this, organisation name variations have been batched and consolidated, so where applicants have provided variants of their name, such as P/L, Pty Limited and Pty Ltd, these variations have been grouped together as a single applicant.

Intellectual Property Longitudinal Research Data (IPLORD) is an Australian snapshot of the IP rights that Australian and international applicants file for each year and accumulate over time. Recently, we have expanded the coverage of the to include the filing activities of applicants over the history of the Australian IP Right System.

We have revised our IPLORD product to work with IPGOD's enhanced entity resolution algorithm. It also expands on previous editions to now include over 200 fields. The updated IPLORD dataset will be available in late 2021.

Initiatives in inter-IPO cooperation (MOUs etc.)

IP Australia signed a memorandum of understanding (MoU) in 2015 with the European Patent Office (EPO) on bilateral cooperation. Activities under the current work plan include:

- CPC classification data transmission to the EPO.

- Exchange information and best practices in the field of Computer Implemented Inventions (CII) including emerging ICT technologies.
- Improve work-sharing and promote effective use of bilateral Patent Prosecution Highway (PPH).
- Exchanges on Quality Management Systems (QMS) and ISO 9001:2015 principles and practices.
- Patent and legal event data exchange to improve quality of AU data available in EPO's database, explore exchanging structured and enriched citation data and full-text with embedded images in ST.36/96 format.
- EPO participate in the proof of concept for IPOcollab – a new platform delivered by IP Australia that supports ongoing collaboration, knowledge sharing for IP Offices engaged in international co-operation activities.

IP Australia continues to work with the Intellectual Property Office of the Philippines (IPOPHL) assisting their operations as an international searching and examining authority under the PCT. Recent activities include IP Australia reviewing the quality of IPOPHL Early Search Reports and Written Opinion as part of the agreed benchmarking activity in the MOU workplan.

New projects launched or resumed this year in the context of the policies and plans mentioned above, short description: aims, partners, tasks

• *Transactional Digital Services (TDS) Program* - The TDS Program has successfully transformed IP Australia's digital business model. TDS developed a contemporary and customer centric API-led platform which has reimagined the transactional experience for customers. Leveraging this API ecosystem, the program completely redeveloped B2B service offerings for customers. The program recently delivered IP Australia's new online services website experience. By utilising customer led delivery, the platform has significantly reduced red tape and made accessing the IP system simpler. The completion of the program has now cemented IP Australia at the forefront of digital government services.

• *Outcome Based Directions*- This tool uses a machine learning model to identify applications that are 'ready' and 'interested', and issues top-up directions in the order determined by the model. This offers an improvement to the process of the Commissioner of Patents issuing directions to applicants to request an examination of their patent application .

Note: Australian applicants are required to formally request examination for the examination process to being, otherwise the application lapses after a prescribed period.

• Foreign Examination Report (FER) Feature Analysis -This tool helps examiners by using natural language processing to extract relevant objections and citation information from foreign examination reports. The early Alpha version of the tool was released in June 2021 and is currently being tested by representatives from patent examination.

Main areas of patent information activities and related information and communication technology (ICT) practices which were in the focus of attention last year

IP Australia's *Patent Analytics Hub* provides analysis, visualisation and interpretation of data included in patent documents. This data source reflects activities, innovation and opportunities within industry sectors, and helps government to develop policy to support the growth of emerging areas.

The *Centre for Data Excellence (CODE)* is an internal area that provides answers to questions requiring data from multiple business sources. CODE provides expertise in the areas of data governance, performance analysis and enterprise reporting, business fact development and data engineering services. CODE implements IP Australia's new data strategy, with four areas of strategic focus: customer; streamlining; capability and governance.

Statistics: changes in terms of application filings and grants with respect to previous year; trends or areas experiencing rapid changes

Item	2020	2019	2018	2017	2016
National Filed Applications (includes Standard + National Phase Entry)*	8,164	8,848	9,047	9,021	9,027
PCT Applications	21,129	20,941	20,934	19,969	19,449
National Granted Applications	5,331	5,079	4,772	5,289	5,726

In 2020, economic shocks associated with the COVID-19 pandemic and supply chain disruptions induced a sharp contraction in employment and output. For more information on patent filing trends and statistics, please review the Australian Intellectual Property Report 2021. This IP Report documents some surprising trends in IP activity during this unprecedented crisis. Applications for patents fell by 2 percent in 2020.

Other matters and useful links (URLs): annual report of the Office, news page, statistics, etc.

Latest news

https://www.ipaustralia.gov.au/about-us/news-and-community/news

Statistics

https://www.ipaustralia.gov.au/about-us/research-and-data

Annual Report

https://www.ipaustralia.gov.au/about-us/research-and-data/australian-ip-report

Patent Search Systems and Data sources

AusPat - AusPat is IP Australia's search database that allows inventors, industry and researchers to access patent applications lodged and granted in Australia. http://pericles.ipaustralia.gov.au/ols/auspat/faqs.html

IPGOD - Intellectual Property Government Open Data—is a publicly available data set that provides access to over 100 years of information from IP Australia on IP rights applications. https://www.ipaustralia.gov.au/about-us/research-and-data/ip-government-open-data

IPLORD - Intellectual Property Longitudinal Research Data is the annual snapshot of the stocks and flows of intellectual property (IP) rights for 362,990 Australian and 253,285 international applicants over 20 years. https://data.gov.au/dataset/ds-dga-41383895-e0ea-4904-b3e1-ae5b938e82a5/details?q=

IP NOVA - IP Nova is a visual immersive search engine that helps users discover registered patents, trade marks, designs and plant breeder's rights from IP Australia's database. https://ipnova.ipaustralia.gov.au/#/

Patent Analytics Hub - https://www.ipaustralia.gov.au/about-us/research-and-data/patent-analytics-hub

II. SERVICES AND ACTIVITIES RELATED TO PATENT INFORMATION CARRIED OUT BY THE OFFICE

Information and support provided by the Office to applicants regarding filing on paper and/or e-filing (instructions, seminars, etc.) - URLs

IP Australia provides information on its website to support applicants filing. IP Australia also provides further support through the contact centre or online enquiry channels. Applicants are also invited to utilise WIPO information resources, including The PCT Applicant's Guide.

https://www.ipaustralia.gov.au/patents/applying-patent/international-application-process/applying-international-application

Availability of the application dossier in electronic form

The Patent application dossier is always available via the Patent search system, AusPat.

http://pericles.ipaustralia.gov.au/ols/auspat/quickSearch.do

Classification[1], preclassification[2] (if applicable), reclassification[3] activities; classification systems used (e.g., International Patent Classification (IPC)); matters concerning indexing of patent information

Patent applications are classified into the latest edition of the International Patent Classification. As of 1 January 2006, IP Australia implemented the use of IPC 8 (reformed).

IP Australia no longer reclassifies Australian designated PCT applications at the open for public inspection stage.

Abstracting, reviewing, and translation of the information contained in patent documents

Examiners redraft applicant prepared abstracts of non-PCT national applications when they are found to be deficient to an extent that they are unable to fulfil their function. The abstracts of PCT national phase applications are not reviewed as these have been thoroughly evaluated in the international phase.

Other activities

No comment is made here.

III. SOURCES OF PATENT INFORMATION PROVIDED BY THE OFFICE

Main types of publications of the Office (patent applications, full text, first pages, abstracts, bibliographic data, granted patents, etc.), medium (on paper, on CDs, online - URLs)

The number of patent documents published in 2020 in the Australian Official Journal of Patents (AOJP) was:

- patent applications open to public inspection (AU-A) = 12,075
- patent applications advertised accepted (AU-B) = 17,471

Note: The AU-A figure includes standard patent, and innovation patents made OPI either pre-grant or at grant (does not include National Phase Entries).
The AU-B figure includes standard patent acceptances and innovation patent certifications.

Official Gazettes: main types of announcements, frequency of publication, medium (on paper, on CDs, online - URL), etc.

Official notices and changes to office procedures are published in the AOJP.

These Official notices, and many other patent related notices (including the manual of practice and procedure), are also put directly on the IP Australia website under the Patent notices section.

The supplement to the Australian Official Journal of Patents may be found at:

http://pericles.ipaustralia.gov.au/ols/epublish/content/olsAvailablePatentPDFs.jsp

Information on IP Australia's Bulk Data Products can be found at:

https://www.ipaustralia.gov.au/about-us/doing-business-us/bulk-data-products

Information products and patent document collections (coverage, medium, etc.) available to examiners, including external collections and databases

IP Australia uses commercial search tools EPOQUE Net, STN and GenomeQuest to search databases such as EPODOC, WPI, full text patent databases and many non-patent literature databases. Examiners also use free patent and non-patent literature databases available on the internet.

Non-Patent Literature - https://manuals.ipaustralia.gov.au/patent/2.1.7.5-non-patent-literature

Information products and patent document collections (coverage, medium, etc.) available to external users, conditions of access (e.g., free of charge, subscription, etc.)

The Office continues to receive foreign patent specifications on CD-ROM and DVD.

The following databases and information are available through the IP Australia website:

- AusPat (free of charge) - http://pericles.ipaustralia.gov.au/ols/auspat/quickSearch.do
- IPGOD and IPGOLD data (free of charge) - data.gov.au
- APIs - https://www.ipaustralia.gov.au/api-transaction-channel/ip-right-management-api
- Subscription-based mailing lists - https://www.ipaustralia.gov.au/about-us/news-and-community/stay-informed

Legal status information (kind of information, coverage, medium, etc.)

IP Australia provides the Patent Supplemental Journal in XML format. This includes Legal Status Data. Legal Status Data elements have not been singled out in any particular format as this will be done in line with decisions of the CWS and Legal Status Data Task Force.

Note: Interested parties may also download the Patent Supplemental Journal in xml format from the secure FTP server in line with the weekly journal publication dates. It is also freely available on the Patent Supplement Downloadable Journals web page http://pericles.ipaustralia.gov.au/ols/epublish/content/olsAvailablePatentPDFs.jsp

Patent Legal Status API **-** IP Australia conforms to ST.27 Patent Legal Status and has worked on Patent Legal Status API in 2020.

Other sources

No comment is made here.

IV. ICT SUPPORT TO SERVICES AND ACTIVITIES RELATED TO PATENT INFORMATION CARRIED OUT BY THE OFFICE

Specific software tools supporting business procedures within the Office: general description, characteristics, advantages, possible improvements

Online Application portal (Replacing eServices) is a bespoke interactive cloud-based website for self-filers to file applications and manger existing IPRs. https://portal.ipaustralia.gov.au/login

B2B API channel allows professional IP service providers to submit applications and manage IPRs via APIs https://www.ipaustralia.gov.au/api-transaction-channel

Order Management Workbench (OMW) is an internal web-based interface which allows formalities staff to enter paper based applications and manually correct issues and errors with filings. It is a bespoke java application.

Patent Application Management System (PAMS) is the primary tool for managing examiner work flow in the national phase. It is a bespoke, Unix /Java-based web application.

AusPat is the definitive Australian patents search engine which is the interface into the official patent register. AusPat contains bibliographic and status information from applications submitted from January 1979 on. AusPat also contains International Patent Classification information for the majority applications from 1920; IPC version 8 has been applied to applications filed from 1970.

The Office's publication system provides the following functions

- Production of the AOJP Supplement as a PDF file and XML format available for download. The Supplement covers applications from 2002. The journal is published on IP Australia's website;
- Production of patent certificates and original register entries; and
- Production of notices for patent applicants or their agents.

INTESS is the application the office uses for managing PCT applications and PCT-EDI for data exchange but is moving to ePCT for the management of PCT applications. INTESS will be decommissioned in the next few years.

Remote Access: Since the beginning of the Covid-19 pandemic, lockdowns required most staff to work from home (WFH) for an extended period. Reliance on, and capability for remote access matured quickly. IP Australia implemented a Future Ways Of Working program in 2019 to facilitate more geographically diverse staff, allowing more staff to work from home more often. As this capability was established prior to the pandemic, IPA was able to pivot to WFH during lockdowns as compared to other organisations without remote working capability.

Hardware used to supporting business processes of the Office

IP Australia use commercial laptops with Windows 10 Operating system and MS365 office productivity tools. MS Teams and SharePoint are being introduced as primary collaboration technologies.

IP Australia's online and B2B via API IP Rights application and management tools are all cloud based.

Legacy systems have been moved off premises and moved into offsite, commercial shared data centres and high available containerised architecture has been applied to majority of business-critical applications.

Internal databases: coverage, updates, interlinks with external sources

The primary business system is the Unix / Java application PAMS which runs in an environment which includes Sun Solaris, Oracle RDBMS, J2EE, BEA Weblogic, and Objective EDMS.

Full specifications of all non-PCT designated AU-A AU-B and AU-C patent specifications are available on the website AusPat.

Establishment and maintenance of electronic search file: file building, updating, storage, documents from other offices included in the search file

No comment is made here.

Administrative management electronic systems (register, legal status, statistics, and administrative support)

IP Australia's financial system uses SAP technology.

Other matters

No comment is made here.

V. PROMOTION ACTIVITIES AIMED TO SUPPORT USERS IN ACCESS AND EFFICIENT USE OF PATENT INFORMATION

Patent library: equipment, collection management, network of patent libraries in the country, cooperation with foreign patent libraries

All Australian Patents records/documents are handled in accordance with Office procedures set down under Australian Law and archiving practices.

Australian Patents data is searchable on the EPOs Espacenet: https://worldwide.espacenet.com/

Australian Patents data is searchable on WIPO's Patentscope: https://patentscope.wipo.int/search/en/search.jsf

Publications related to different business procedures and patent information sources available to users, for example, books, brochures, Internet publications, etc.

No comment is made here.

Office's initiatives on providing foreign patent information in the local language(s) (e.g., machine translation tools, translation of abstracts)

No comment is made here.

Cooperation with universities, research centers, technology and innovation support centers, etc.

IP Australia works with universities, government agencies and industry bodies to reach businesses across Australia. IP Australia provides a contemporary website with rich digital content, on-demand webinars, video case studies, written case studies, a customised portal for small and medium enterprises and social media messaging to increase awareness and understanding of IP rights information.

2020-2021 efforts have been hindered by COVID-19 and there has been a 'pivot' or shifting of priorities to deliver information via virtual channels. IP Australia has increased the number of on-demand webinars and have a robust plan in place to keep developing new material. The use of social media channels has increased, in particular LinkedIn) and Facebook, with an emphasis on directing businesses to the content on the website and to the on-demand webinars and virtual sessions run with partners.

Exporters, Small to Medium Sized Enterprises (SMEs) and indigenous business are three areas where IP Australia is focusing efforts.

- For exporters, IP Australia maintains an ongoing relationship with the Export Council of Australia (ECA), providing IP materials that assist Australian businesses when exporting. IP Australia and the ECA cross-promote events, programs and speaking opportunities. IP Australia has also partnered with universities, supporting exporting programs with virtual presentations and showcase relevant material via the website.
- For SMEs, IP Australia has developed a customised 'SME Portal' that brings all relevant materials together in one place, enabling easy access and streamlining the customer experience. IP Australia has partnered with regional business chambers and enterprise centres, delivering virtual sessions to showcase via the SME Portal. IP Australia have continued strong engagement with other government agencies, leveraging grant and support programs. Where these programs have business facilitators who work 'on the ground' with SMEs, a 'train the trainer' product is being introduced to enable them to speak about IP with confidence, increasing reach and impact.
- For indigenous business, IP Australia is developing customised products and identifying relevant channels that will achieve maximum impact and reach into indigenous business communities in urban, rural and remote areas. By partnering with Aboriginal Arts foundations, other government agencies and university programs, IP Australia is able to leverage networks to further knowledge regarding IP. A bespoke indigenous business portal is being developed on the website and is developed to be fit for purpose, with customised education products.

Education and training: training courses, e-learning modules (URLs), seminars, exhibitions, etc.

No comment is made here.

Other activities

No comment is made here.

VI. INTERNATIONAL COOPERATION ACTIVITIES IN THE FIELD OF PATENT INFORMATION

International exchange and sharing of patent information in machine-readable form, e.g., priority documents, bibliographic data, abstracts, search reports, full text information

International exchange of patent information can be done using IP Australia's patents bulk data products: https://www.ipaustralia.gov.au/about-us/doing-business-us/bulk-data-products.

Participation in international or regional activities and projects related to patent information

Group B+ 'Worksharing via ICT' Work Stream

IP Australia continues to lead the Group B+ work stream towards achieving work sharing, specifically mutual-exploitation through the use of Information Technology (IT).

Vancouver Group

The Vancouver Group (VG) was established in 2008 comprising of the IP Offices of Australia, Canada and the United Kingdom (UK) to share information and experiences on common issues and areas relevant to management of a mid-sized IP Office. A Work Plan for Future Collaboration was developed by the VG Working Group in 2017.

As part of the work plan, the Searching Working Group was formed in March 2018 to prioritise collaboration between patent search specialists and allow mutual learning to enhance search quality. There have been fruitful exchanges of information relating to patents to date on:

- Search tools and databases: comparison of the Offices' search tools and databases has been completed and was a useful exercise to have confidence in the tools available to their examiners.
- Search Quality: comparison of the Quality Review Systems with a focus on searching has now been completed.
- Search Training: sharing information on search training for new examiners and experienced examiners is now complete.
- Search Collaboration Workshops: a benchmarking exercise where the Offices will search patent applications in a specific technology to compare and contrast search strategies and results. Two workshops have been completed and a third is on-going.
- Manuals of Practice: comparison of Search Manuals.

IP Australia has also contributed to the Patent Cooperation Treaty (PCT) International Search Report (ISR) Feedback Pilot led by the UK IP Office. Through the VG collaboration, IP Australia continues to contribute to a more effective multilateral approach to work sharing.

Collaboration with South African Patent Office (CIPC)

IP Australia has successfully collaborated with the EPO to design and develop a competency-based patent training framework for the South African Patent Office (CIPC). This training framework mapped out learning competencies, training delivery timetables, and training plan templates across four modules which EPO have been able to implement when delivering patent examination training to CIPC. This initiative supports our international relationship with the EPO.

Assistance to developing countries

Regional Patent Examination Training (RPET)

The RPET program was launched in April 2013 and concluded at the end of 2020. It successfully trained 50 trainee patent examiners in the ASEAN region to the international standards of the PCT.

The RPET program was a comprehensive patent examination program based on IP Australia's existing competency-based training program offered to IP offices enabling them to consistently meet international best practice and standards consistent with the PCT.

The Regional Patent Examination Training Mentoring (RPEM) program built on the foundations of the RPET program by assigning IP Australia Mentors to participating IP offices, assisting them in navigating existing training material, building internal training capacity and improving quality standards, including with face-to-face visits and virtual support.

Through both the RPET and RPET Mentoring programs IP Australia has developed strong relationships with ASEAN offices achieving cross regional cooperation with a view to multilateral outcomes on PCT examination.

Other activities

WIPO Funds-in-Trust

IP Australia provides assistance to developing countries through WIPO Funds-In-Trust. Due to the global COVID-19 pandemic, FIT activities were paused for most of 2020. The program has now been extended to December 2021, and due to ongoing travel restrictions, activities have been redesigned where possible to be delivered virtually.

VII. OTHER RELATED MATTERS

No comment is made here

End of report

1.Classification is allotting one or more classification symbols (e.g., IPC symbols) to a patent application, either before or during search and examination, which symbols are then published with the patent application.

2. Preclassification is allotting an initial broad classification symbol (e.g., IPC class or subclass, or administrative unit) to a patent application, using human or automated means for internal administrative purposes (e.g., routing an application to the appropriate examiner). Usually preclassification is applied by the administration of an office.

3. Reclassification is the reconsideration and usually the replacement of one or more previously allotted classification symbols to a patent document, following a revision and the entry into force of a new version of the Classification system (e.g., the IPC). The new symbols are available on patent databases.