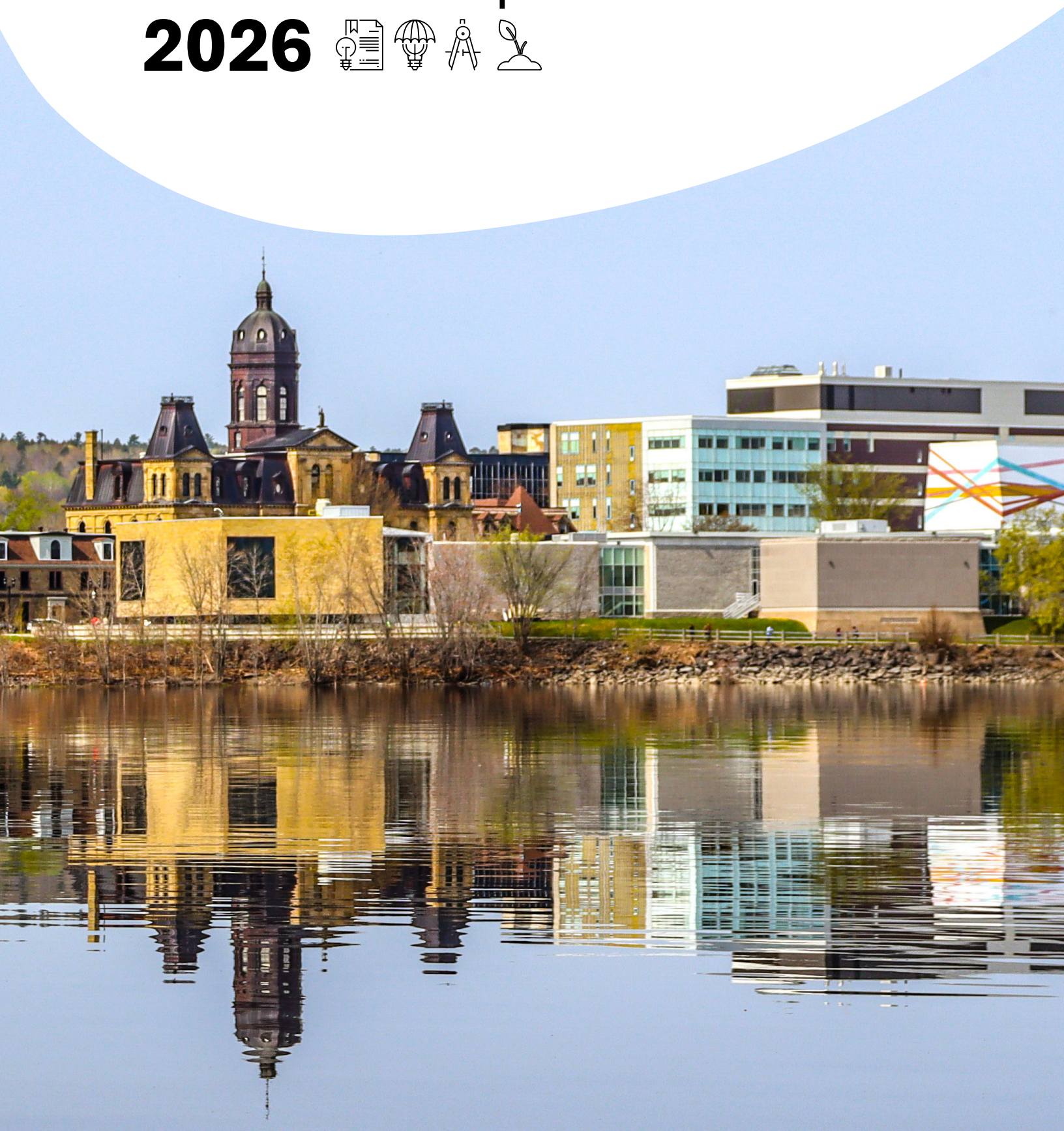
Canadian Intellectual Property Office | Office de la propriété intellectuelle du Canada

Canada

IP Canada Report 2026



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Contact
Client Service Centre
Canadian Intellectual Property Office
Innovation, Science and Economic Development Canada
Place du Portage I, Room C229, 2nd floor, 50 Victoria Street
Gatineau, QC K1A 0C9

Telephone (toll-free): 1-866-997-1936
TTY: 1-866-442-2476
Fax: 819-953-2476
ic.contact-contact.ic@ised-isde.gc.ca

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Authors
Diego Santilli, Chief of Economic Research, Canadian Intellectual Property Office
Xiang Zhao, Economist, Canadian Intellectual Property Office

Collaborators
Sean Martineau, Director of the IP Data & Research Office and Acting Data Steward, Canadian Intellectual Property Office
Avideh Mahdavi, Economist, Canadian Intellectual Property Office
Marc de Wit, Examiner, Canadian Food Inspection Agency

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Konstantinos Georgaras
Chief Executive Officer

Message from the CEO

I am pleased to present this year's edition of the IP Canada Report, which continues to provide a comprehensive overview of intellectual property (IP) activity in Canada and abroad by Canadians. In a rapidly evolving global environment, IP remains a key enabler of innovation, competitiveness and economic growth.

This past year marks an important moment for the Canadian Intellectual Property Office (CIPO) as we updated our five-year Business Strategy. Building on the progress achieved to date, this renewed strategy reinforces our commitment to delivering timely, high-quality IP rights while continuing to modernize our services and strengthen our role within the global IP ecosystem.

International engagement remains central to this work. Over the past five years, Canada's participation in the Madrid Protocol and the Hague Agreement has helped connect Canadian businesses more seamlessly to international markets, while also reinforcing Canada's position as an attractive jurisdiction for IP protection. These treaties have facilitated access to more efficient and cost-effective international filing pathways, supporting firms of all sizes in scaling their operations beyond Canada. At the same time, increased access to international IP systems has contributed to sustained demand for IP rights in Canada, particularly in the area of trademarks.

Looking ahead, CIPO will continue to deepen its analytical and research efforts on key issues shaping the future of IP. In particular, growing attention is being given to the role of IP in supporting trade diversification. As Canadian businesses seek to expand into new and emerging markets, understanding how IP rights can facilitate market entry, manage risk and enhance competitiveness will remain an important area of focus.

As this report demonstrates, Canada's IP system is both dynamic and resilient. CIPO remains committed to supporting innovators, entrepreneurs and businesses by providing the tools, services and insights they need to succeed in an increasingly knowledge-based economy. I would like to thank the many contributors to this report, whose expertise and dedication made this publication possible, and I invite you to explore this year's findings and insights.

About us

CIPO is a special operating agency of Innovation, Science and Economic Development Canada (ISED), responsible for the administration of IP in Canada. CIPO contributes to Canada's innovation and economic success by providing greater certainty in the marketplace through the timely delivery of quality IP rights, fostering and supporting invention and creativity through knowledge-sharing, raising awareness to encourage innovators to better exploit IP, helping businesses compete globally through international cooperation and the promotion of Canada's IP interests, and administering Canada's IP system and office efficiently and effectively.[1]

Our five-year business strategy:[2]



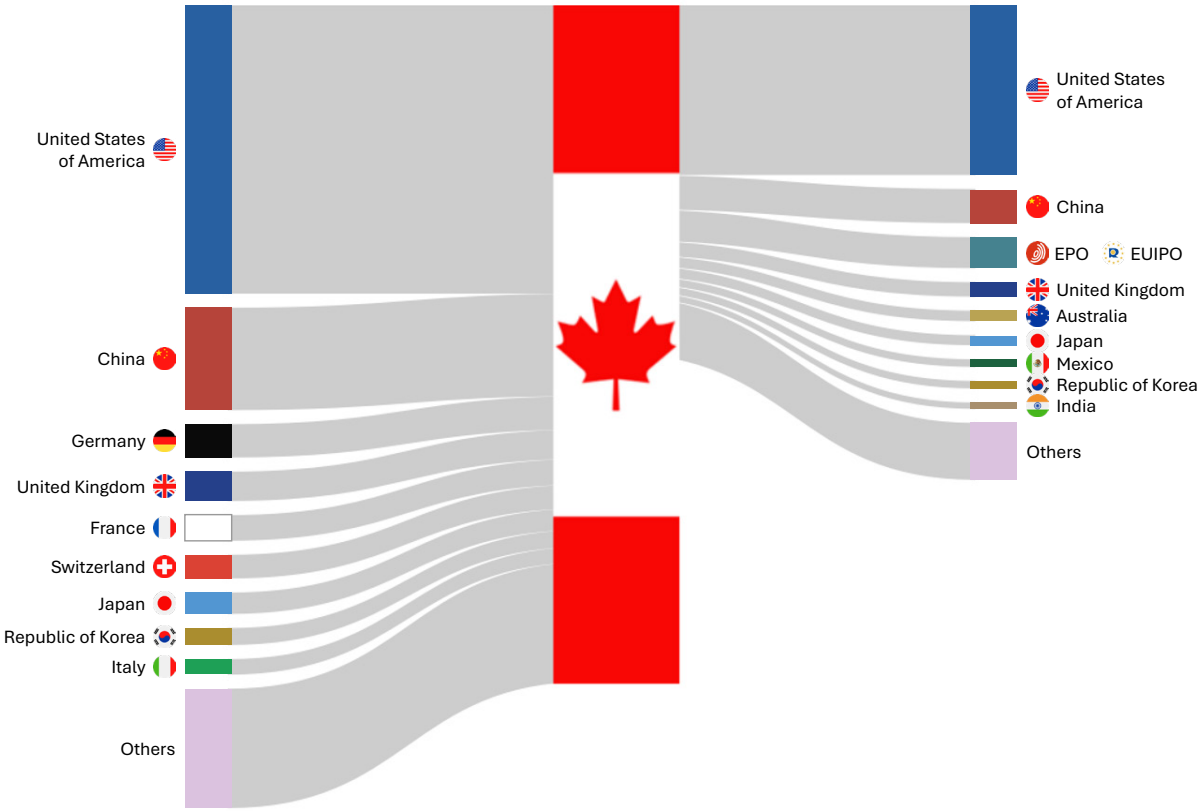
1 Visit the CIPO mandate page for information on the organization's mission, vision and values, and the publications page for links to the latest annual report and business strategy.

2 CIPO's 2026–2031 Business Strategy

Executive summary

Canada is a major international destination and source of IP rights, with applications for almost 135,000 patents, trademarks, and industrial designs, annually. This includes applications filed at CIPO from Canadian and non-resident applicants, as well as applications originating by Canadian residents that are being filed to other jurisdictions. The IP Canada Report presents trends and research on IP use both in Canada and abroad by Canadians, using data from CIPO, the World Intellectual Property Organization (WIPO), and the Canadian Food Inspection Agency (CFIA).

Figure 1. Flow of IP applications into Canada in 2025 by origin (left), and from Canada in 2024 by destination (right)



IP activity rebounds strongly both in Canada and abroad by Canadians

Following a period of fluctuations, 2025 marked a turning point in IP activity, with filings in Canada showing consistent positive growth. Trademark filings rose by 9% to 74,793 applications, led by a sharp increase in resident demand, while industrial design filings climbed by 16% to a record 10,670 designs, reflecting sustained growth across both resident and non-resident users. Patent filings edged up by 2% to 36,047, supported by a notable expansion in resident applications, and plant breeders' rights filings increased by 7% to 363, partially recovering from the previous year's decline. Canadian applicants also showed sustained dynamism abroad: patent filings remained generally stable in 2024 at 19,878 applications, while trademark filings rebounded to over 21,800, and industrial design activity surged by 27% to a historic high of 4,294 designs. Overall, these developments point to a broad-based strengthening in the use of IP, both within Canada and in international markets.

Canada's first five years in the Madrid Protocol show rapid and sustained integration

Canada's accession to the Madrid Protocol in 2019 has led to a rapid and sustained integration into the international trademark system. Within five years, Canada has emerged as one of the leading global destinations for international trademark filings through the Madrid system, ranking among the top recipients of designations by non-resident applicants. The share of trademark applications in Canada filed via the Madrid system increased sharply following accession and stabilized at a relatively high level, indicating that the system has become a central mechanism for trademark protection in Canada. Comparative analysis shows that Canada reached its steady-state level of Madrid use more quickly than other recent non-European members, reflecting the country's role as an established and attractive market for international trademark protection. Overall, the findings highlight the importance of the Madrid system in facilitating efficient and cost-effective access to IP protection across borders.

Patenting in Fourth Industrial Revolution technologies linked to stronger firm performance

Fourth Industrial Revolution (4IR) technologies, including artificial intelligence (AI), quantum computing, and advanced connectivity, are emerging as key drivers of innovation and economic performance. A summary of recent OECD research shows that firms engaged in patenting in these technologies tend to exhibit stronger economic outcomes, providing evidence that investment in frontier innovation can translate into measurable economic value. While Canadian firms are active in 4IR patenting, their activity remains concentrated in specific areas and is often oriented toward foreign jurisdictions. The findings underscore both the growing importance of 4IR technologies in shaping future economic growth and the potential gains associated with strengthening the domestic capture of their economic benefits.



Introduction

The 2026 edition of the IP Canada Report marks the 11th installment in this annual series, presenting trends and research on IP usage in Canada and abroad by Canadians. The first four sections of this report focus on trends in patent, trademark, industrial design,[3] and plant breeders' rights filing activity.[4] Similar to patents, plant breeders' rights safeguard new plant varieties and are managed by the Plant Breeders' Rights Office (PBRO) within the CFIA.[5] CIPO provides data on patent, trademark, and industrial design activity in Canada for 2025,[6] while the CFIA supplies data on plant breeders' rights.[7] International data, sourced from WIPO's IP Statistics Data Center,[8] lags in domestic data by one year because of the time required to compile data from all WIPO member states. For this reason, this report includes international filing data only up to 2024.

Canada ranked 17th in the WIPO Global Innovation Index in 2025, down from 14th in 2024, though it remains within the top 20 innovative economies globally. This change can be explained by Canada's ranking in innovation inputs falling from 8th to 13th, while its innovation output ranking remained unchanged at 20th, continuing a persistent gap between the country's strong innovation capacity and its ability to translate that capacity into tangible results. While Canada continues to benefit from strong institutions, education, and research systems, these results underscore ongoing challenges in converting investments into commercialized innovations, including patents, trademarks, and industrial designs. Strengthening the domestic and international utilization of IP rights by Canadian firms therefore remains essential to improving innovation performance and ensuring competitiveness in an increasingly knowledge- and intangible asset-driven global economy.

In 2025, IP filing activity in Canada exhibited a strong recovery across the four different types of IP rights reported in this publication. Trademark activity rebounded by 9% to 74,793 applications, driven by a 21% increase in resident filings, alongside a more moderate rise in non-resident activity. Industrial design

3 As of the IP Canada Report 2021, industrial design activity by applicants is presented using design counts (i.e., the number of designs contained in applications), rather than the number of applications, as is the case for patents and trademarks. This reflects the structure of the Hague system, under which a single international design application may include up to 100 designs. Measuring activity using design counts better captures the level of inventive output, rather than the transactional nature of filing processes, and aligns with the report series' objective of showcasing creative levels among industrial design applicants.

4 Due to rounding, some figures may not add up to totals.

5 Canadian Food Inspection Agency, Guide to Plant Breeders' Rights in Canada, Ottawa, 2015

6 CIPO data was retrieved on April 28, 2026

7 CFIA data was retrieved on April 10, 2026

8 Data from the WIPO IP Statistics Data Center was obtained on April 29, 2025. WIPO collects the previous year's data from member offices and provides public access. At the time of the production of this report, the last year available was 2023 for direct filings, and 2024 for filings through the PCT, Madrid, and Hague systems.

activity grew sharply by 16% to reach a new peak of 10,670 designs, supported by sustained demand from both resident and non-resident applicants. Patent activity increased by 2% to 36,047 filings, reflecting a significant 26% surge in resident filings, while non-resident activity declined slightly. Plant breeders' rights activity also recovered, rising by 7% to 363 applications following the drop observed in 2024. Internationally, Canadian applicants increased their use of the global IP systems, with patent filings abroad increasing modestly to 19,878 applications in 2024, trademark filings recovering to over 21,800 applications, and industrial designs rising by 27% to a record 4,294 counts, underscoring the importance of IP protection in supporting both domestic activity and international expansion.

Beyond these trends, this report includes two special research sections that examine key developments in the IP landscape. The first analyzes Canada's first five years as a member of the Madrid Protocol, highlighting the country's rapid integration into the international trademark system and its emergence as a major destination for international trademark filings. The second presents a summary of an OECD study on patenting in 4IR technologies, emphasizing the growing importance of these technologies as drivers of economic performance. The report also provides evidence that patenting in these areas is associated with stronger productivity outcomes for firms operating in Canada.

CIPO also administers four other types of IP that are not included in this report: copyrights, integrated circuit topographies, official marks, and geographical indications. A copyright does not need to be registered to be enforced in Canada.[9] Therefore, formal data does not fully encompass its usage. Integrated circuit topographies refer to the three dimensional configurations of electronic circuits embodied in integrated circuit products or layout designs, and are not included because of a lack of readily accessible data on resident and non-resident activity.[10] Official marks are protected under the *Trademarks Act* and include any badge, crest, emblem, or mark adopted and used by any public authority in Canada.[11] A geographical indication can identify a wine or spirit, or an agricultural product or food of a category set out in the *Trademarks Act*. CIPO is responsible for processing requests for protection of geographical indications and ensures that they be entered on the list of protected geographical indications maintained by the Registrar of Trademarks.

9 CIPO, A guide to copyright, 2018

10 CIPO, A Guide to Integrated Circuit Topographies, Ottawa, 2015

11 CIPO, The various categories of marks



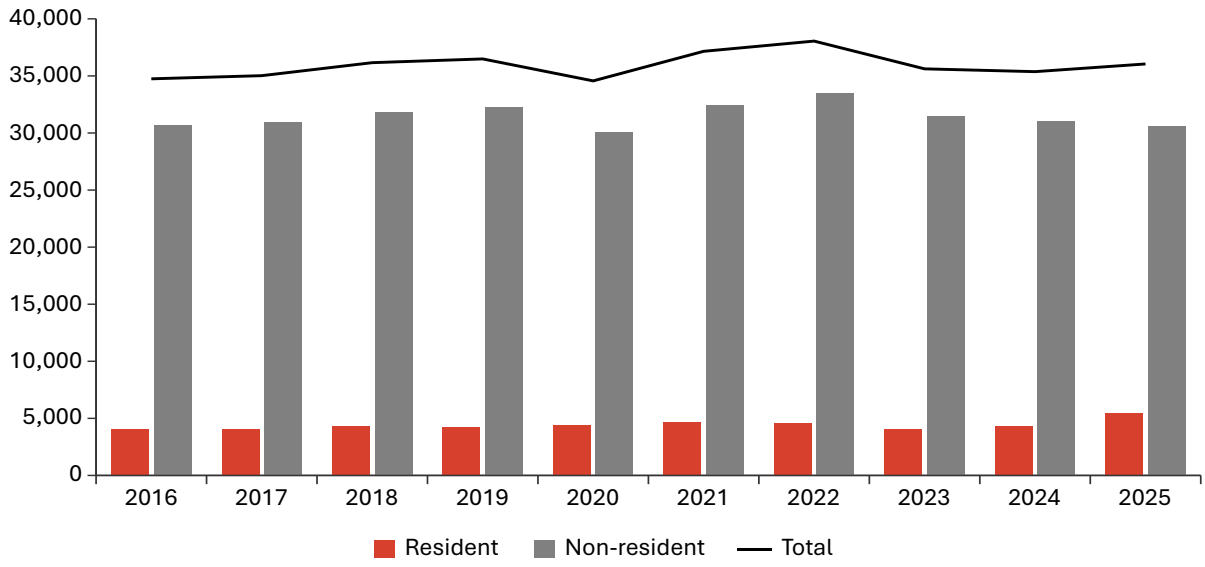
Patents

Patents protect new inventions by granting their owners exclusive rights over their use and commercialization for a limited period. As such, patent data provide important insights into innovation activity and the international orientation of inventors and firms. This section presents recent trends in patent applications filed in Canada and abroad by Canadians, highlighting filing volumes, applicant origins and filing routes. In 2025, patent applications filed in Canada totalled 36,047, while Canadians filed 19,878 applications abroad in 2024.

Patent applications filed in Canada

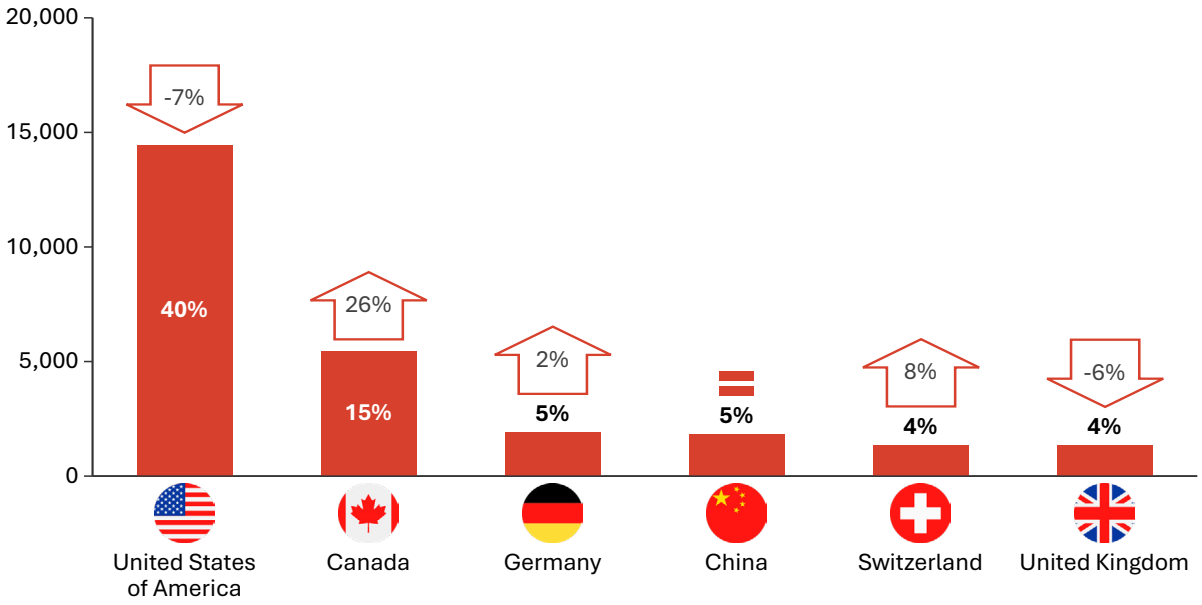
As shown in Figure 2, patent applications filed in Canada totalled 36,047 in 2025, representing a 2% increase from 2024 and marking a return to positive growth following two consecutive years of decline. This increase was driven entirely by resident filings, which rose sharply by 26% to 5,435 applications, the highest level and growth rate observed over the past decade. In contrast, non-resident filings declined by 1% to 30,612 in 2025, continuing a moderate downward trend since 2022. Despite the strong rebound in resident activity, non-residents continue to account for the vast majority of filings in Canada, representing approximately 85% of all applications in 2025. Over the last decade, patent filing activity in Canada has remained relatively stable, with total applications having experienced a slight 2% decline.

Figure 2. Patent applications in Canada, by residency status, 2016–2025



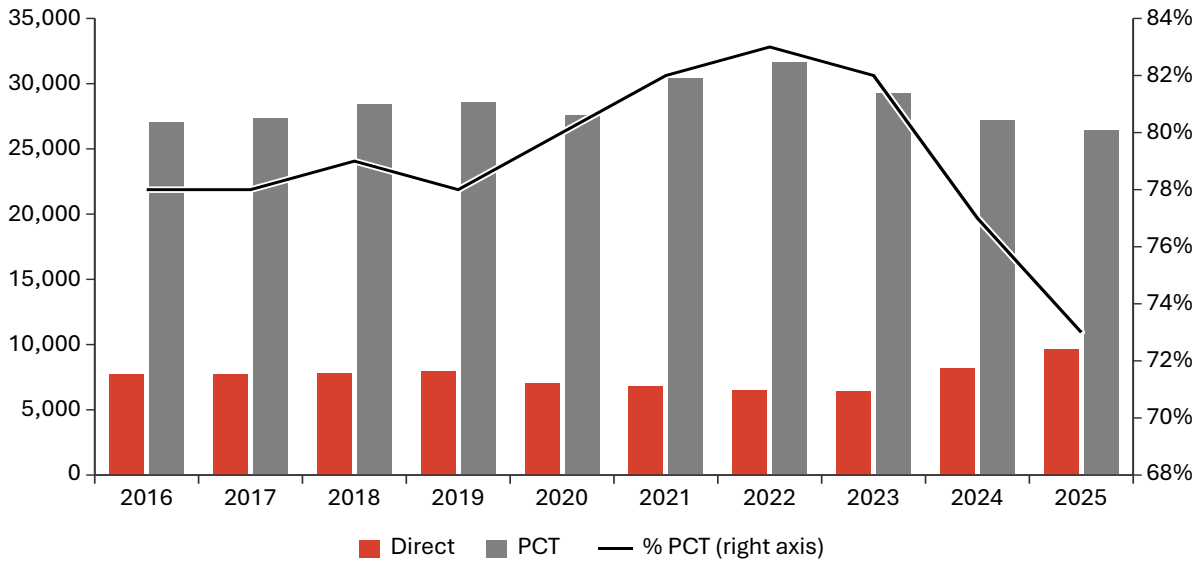
The distribution of patent applications by the top six countries of origin in Canada in 2025 is presented in Figure 3. The United States remained the leading country of origin, with 14,454 applications, accounting for 40% of the total. This represents a 7% decrease compared with activity in 2024. Canada ranked second, with 5,435 applications and a 15% share, reflecting a strong increase of 26%. Among the other major countries of origin filing in Canada, Germany and China each accounted for 5% of total filings, with Germany recording a 2% increase and China remaining stable with volumes recorded in 2024. Switzerland and the United Kingdom each held a 4% share; filings from Switzerland rose by 8%, while those from the United Kingdom declined by 6%. Overall, the distribution of top applicant countries remained similar to the year prior.

Figure 3. Top countries filing for patents in Canada, 2025



The Patent Cooperation Treaty (PCT) provides applicants with a unified procedure to seek patent protection across multiple jurisdictions through a single international application, which can later enter the national phase in Canada. In contrast, direct filings correspond to applications submitted to CIPO without using the international route. The distribution of patent applications by filing route in Canada is presented in Figure 4. Applications filed through the PCT system continued to account for the majority of filings in 2025, with 26,448 applications, representing 73% of the total. However, this share declined markedly from 77% in 2024 and from a peak of 83% in 2022. In contrast, direct filings increased substantially, reaching 9,599 applications in 2025 compared with 8,198 in 2024, the highest level observed in the past decade. As a result, the gap between PCT and direct filings narrowed significantly, although the PCT route remained the dominant pathway for seeking patent protection in Canada. This shift in filing patterns is largely consistent with the strong growth in resident filings, which are more frequently submitted through the direct route.

Figure 4. Patent applications in Canada, by filing route, 2016–2025



Patent applications filed abroad by Canadians

In 2024, Canadians filed 19,878 patent applications abroad, 1% more than the previous year. Figure 5 shows the long term trend in patent filings abroad by Canadians, revealing a modest increase of just over 2% across the 10-year period. The most significant year-over-year changes were an 8% decline in 2020, coinciding with the onset of the COVID-19 pandemic, followed by an 11% rebound in 2021, which effectively offset the long-term impact.

Figure 5. Patent applications filed abroad by Canadians, 2015–2024

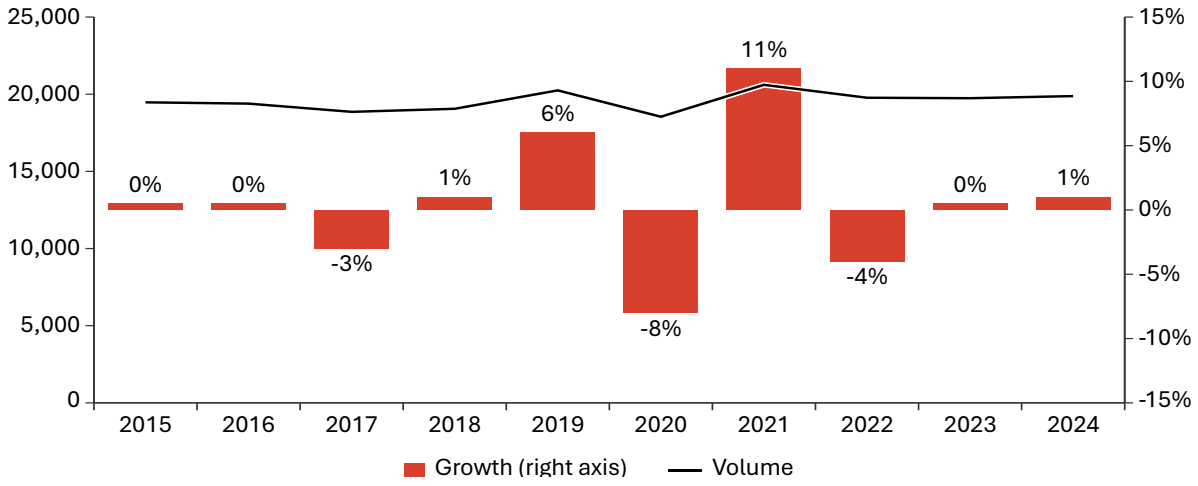


Figure 6 illustrates the principal destinations for Canadian patent applicants in 2024. The composition of the top five remains unchanged from the prior year, together accounting for 85% of all filings abroad. The United States continued to dominate, with 12,421 applications representing a 5% annual growth. The European Patent Office followed with 2,116 filings, marking a 3% increase from 2023. China ranked third with 955 applications, a slight gain of 1%. Japan held fourth place with 762 filings, reflecting a 2% decline. Australia completed the group with 643 applications, also showing a 1% increase compared to the previous year.

Figure 6. Top international destinations for Canadian patent applicants, 2024

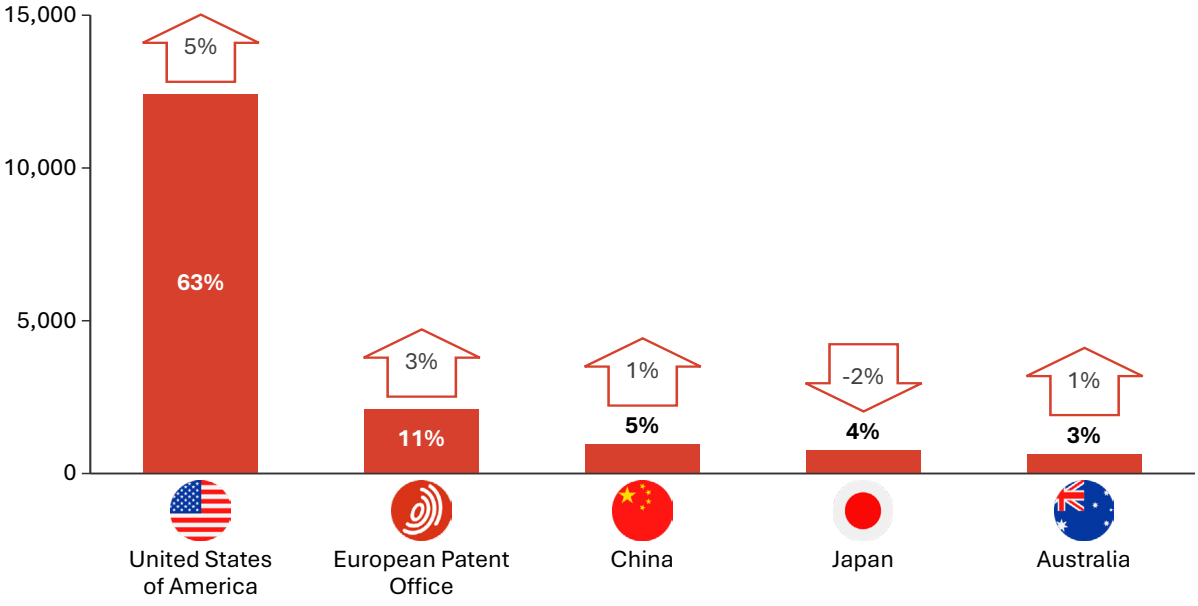
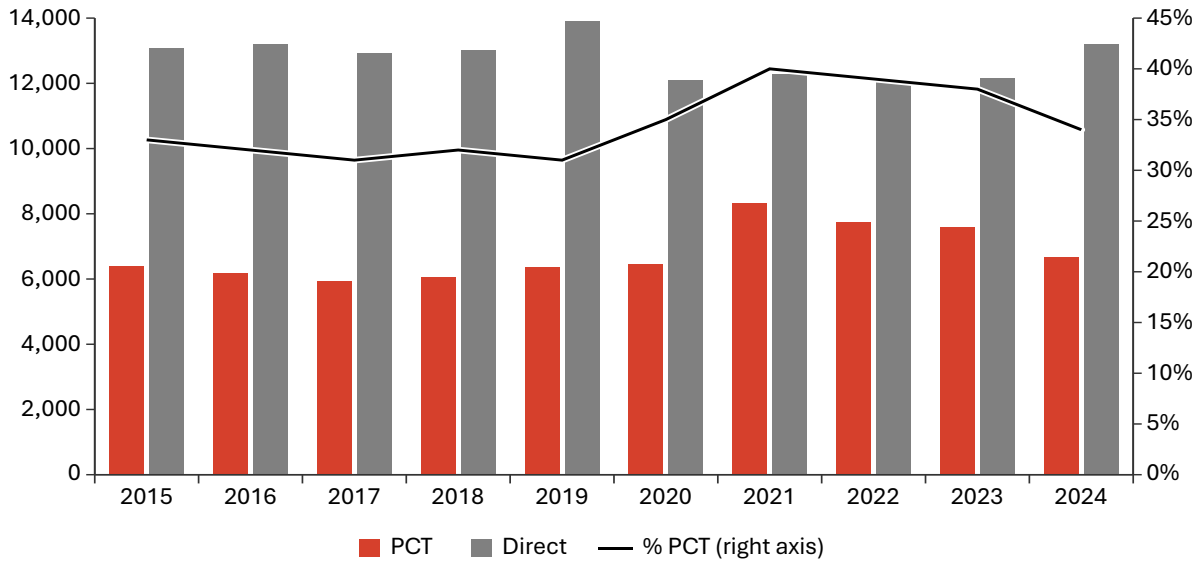


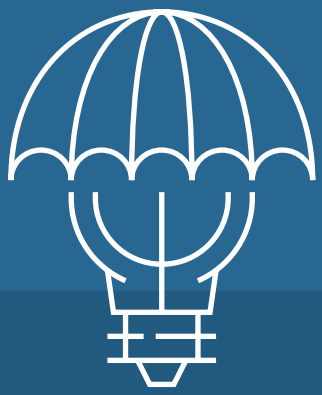
Figure 7 examines Canadian patent filings abroad by filing route. During the pandemic years of 2020 to 2022, the proportion of PCT filings was unusually high, driven by both lower direct filings in those three years and higher PCT filings in 2021 and 2022. Outside of that 2020–2023 period, the trend was steady, with the PCT share between 31% and 33%. In 2024, this pattern returned with 13,199 direct applications and 6,679 filed through the PCT system, representing 34% of the total. The overall increase in patent activity abroad is consequently explained by the 9% increase in direct filings, offsetting the 12% decrease in PCT filings. The share of PCT filings, however, has shown a 6% growth over the last 10 years.

Figure 7. Patent applications filed abroad by Canadians, by filing route, 2015–2024



Conclusion

In 2025, patent activity in Canada showed a modest recovery, driven by a sharp increase in resident filings that more than offset a slight decline in non-resident applications. While foreign applicants and particularly those from the United States continued to dominate filings in Canada, the strong growth in applications from residents marked a notable shift in recent trends. This change was also reflected in the choice of the filing route, with a rising share of direct filings that are typically preferred by resident applicants filing locally. At the same time, Canadian applicants maintained stable levels of patenting abroad in 2024, with a consistent concentration in key international markets and a balanced use of filing routes following the fluctuations observed during the pandemic years. Together, these patterns point to sustained engagement with both the domestic and global patent systems, alongside renewed momentum in resident innovation activity.



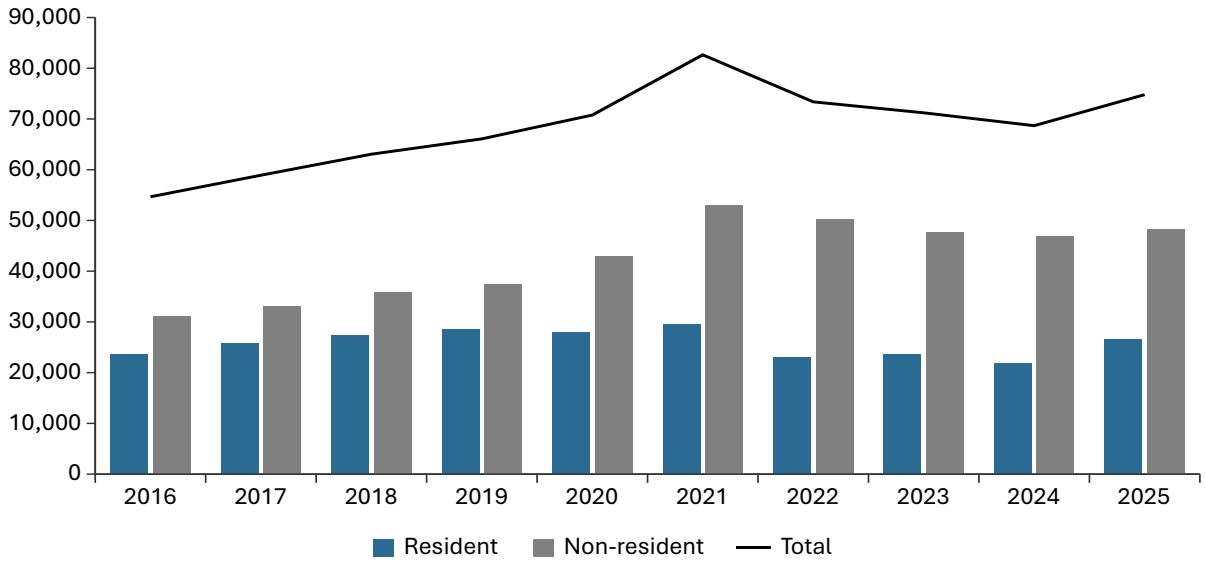
Trademarks

Trademarks protect distinctive signs used to identify goods and services in the marketplace, thereby supporting branding, market differentiation and consumer recognition. Trademark data provides valuable insights into business activity, market entry and expansion strategies, both domestically and internationally. This section examines recent trends in trademark applications filed in Canada and abroad by Canadians. In 2025, trademark applications filed in Canada totalled 74,793, while Canadians filed 21,810 applications abroad in 2024. Over the past decade, trademark filings in Canada have increased by approximately 43%, reflecting sustained long-term growth despite short-term fluctuations.

Trademark applications filed in Canada

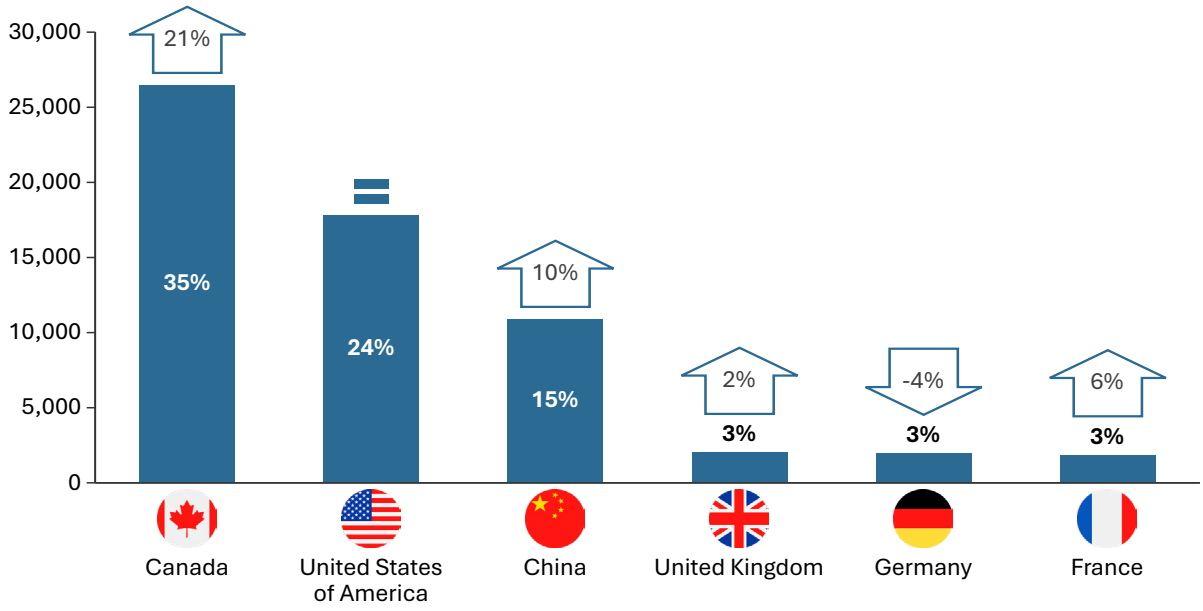
Trademark applications filed in Canada totalled 74,793 in 2025. This represents a 9% increase from 2024 and a rebound following 3 consecutive years of decline, with the highest growth rate since 2021, as revealed in Figure 8. This growth was driven primarily by resident filings, which rose by 21% to 26,487 applications, the highest year-over-year percent increase of the previous decade. Albeit more modestly, non-resident filings also increased by 3% to 48,306 applications, and continued to account for the majority of filings, representing approximately 65% of the total in 2025. Over the 10-year period, growth has been driven largely by non-resident activity, which expanded by more than 60%, compared with a more modest increase of about 17% among resident filings. Overall, trademark activity in Canada remained below the peak observed in 2021 but showed clear signs of renewed momentum, growing 43% over a 10-year period.

Figure 8. Trademark applications in Canada, by residency status, 2016–2025



The distribution of trademark applications among the top six countries of origin in Canada in 2025 is presented in Figure 9. Canada ranked first, with 26,487 applications accounting for 35% of the total, reflecting a strong annual increase of 21%. The United States followed with 17,799 applications and a 24% share, consistent with activity levels from the previous year. China remained the third-largest source, with 10,913 applications representing 15% of the total and a notable increase of 10% from 2024. Three European countries round off the chart, with the United Kingdom, Germany, and France each accounting for 3% of filings, with moderate growth of 2% and 6% for the United Kingdom and France, respectively, and a 4% decline for Germany. Overall, the composition of top origin countries remained stable from the previous year, although with growth patterns varying across jurisdictions.

Figure 9. Top countries filing for trademarks in Canada, 2025



This year, the analysis of trademark applications by filing route is presented in a special section titled Canada's first five years as member of the Madrid Protocol.

Trademark applications filed abroad by Canadians

Figure 10 highlights trademark applications filed abroad by Canadians and the annual variations observed. In 2024, filings rose to 21,810, marking a 4% increase from the previous year and reversing the earlier downward trend. Looking over the past decade, Canadian applicants have expanded their trademark filing activity abroad by 47%, underscoring a sustained long-term growth trajectory despite short-term fluctuations.

Figure 10. Trademark applications filed abroad by Canadians, 2015–2024

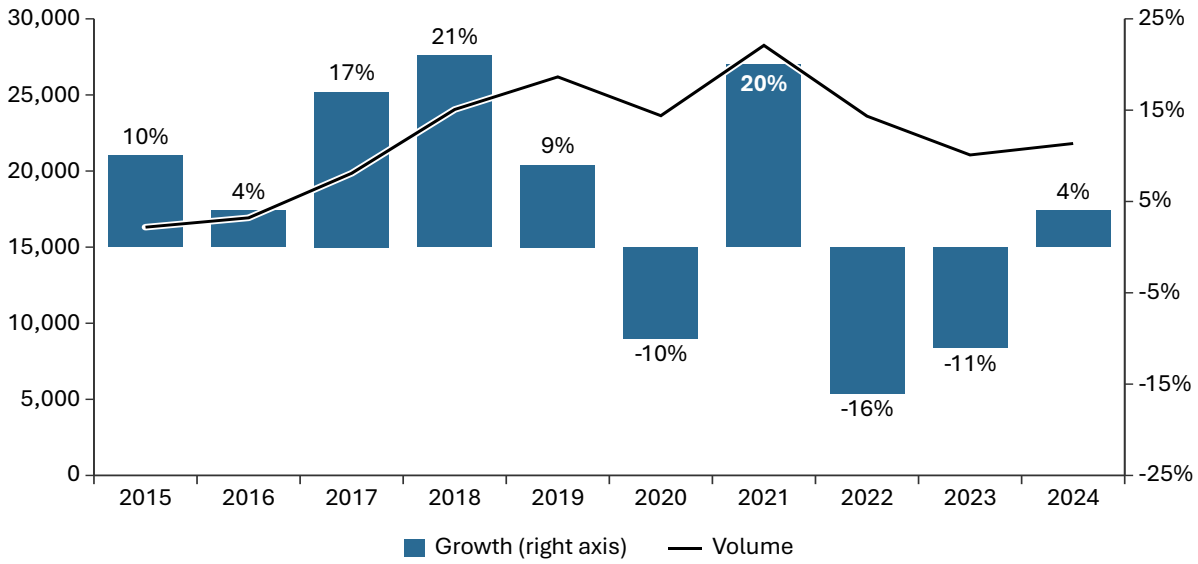
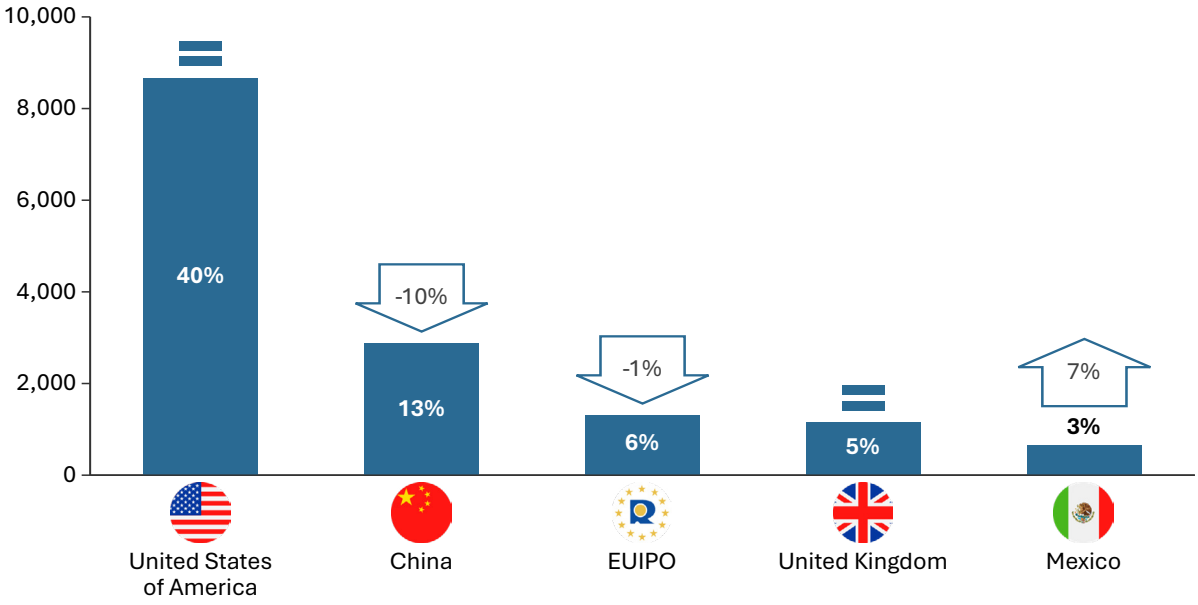


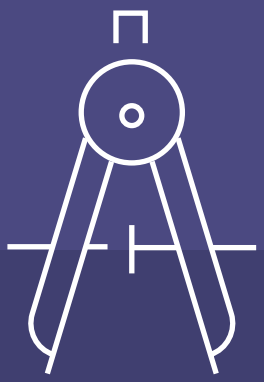
Figure 11 shows the leading international destinations of trademark applications filed abroad by Canadians in 2024. Together, these five jurisdictions accounted for 67% of total filings. The United States remained the primary destination, with 8,664 applications, virtually unchanged from the previous year. China followed with 2,867 filings, reflecting a 10% decline that was consistent with filing trends by international applicants to China at large in 2024. The European Union Intellectual Property Office (EUIPO) received 1,296 applications, a slight 1% decrease from the previous year. The United Kingdom held steady at 1,153 filings, while Mexico strengthened its position in fifth place with 660 applications, a 7% increase compared to 2023.

Figure 11. Top international destinations for Canadian trademark applicants, 2024



Conclusion

In 2025, trademark filing activity in Canada rebounded following three years of decline, driven primarily by a strong increase in resident applications and supported by more modest growth among non-resident filings. Canada remained the leading country of origin, while the overall composition of foreign applicants continued to reflect a stable and internationally diverse base, with the United States and China playing a prominent role. Canadian applicants also sustained their activity abroad, filing 21,810 trademark applications in 2024, a 4% increase from the previous year and part of a broader long-term upward trend. Over the long term, both inbound and outbound trademark activity have expanded significantly, underscoring the growing importance of trademark protection in supporting business activity and international market engagement. Together, these developments indicate renewed domestic momentum alongside continued expansion and solid engagement in international trademark markets.



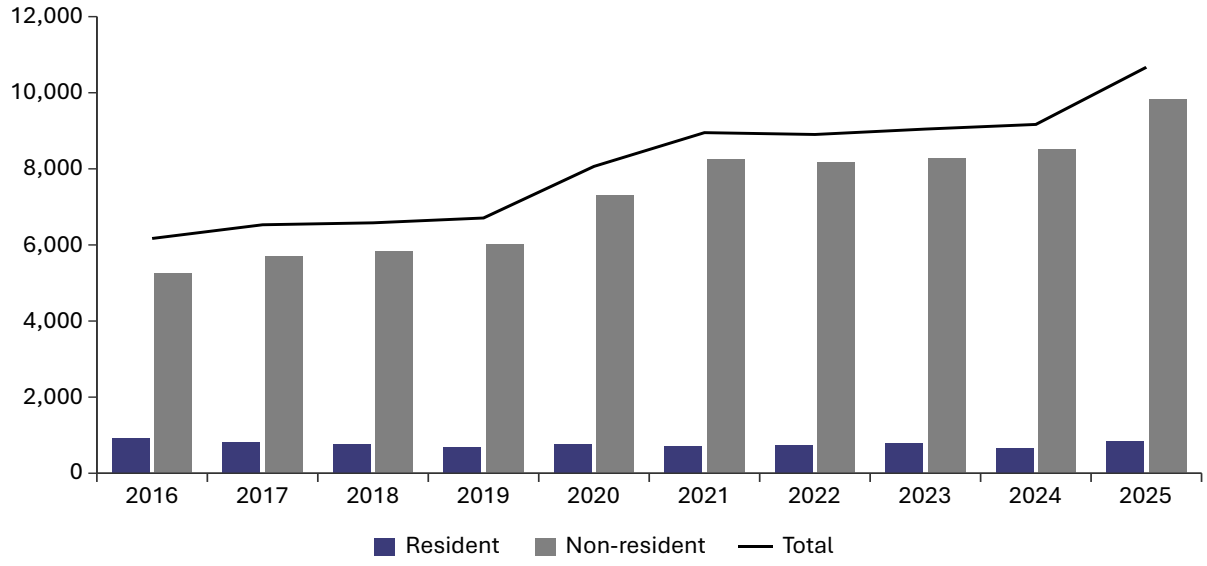
Industrial designs

Industrial designs protect the visual features of products, including shape, configuration, pattern and ornamentation, contributing to product differentiation and market competitiveness. Industrial design data provide insights into product development, commercialization strategies and the international reach of firms. This section examines recent trends in industrial design filings in Canada and abroad by Canadians, focusing on filing volumes, origins and destinations, and the use of the Hague system. In 2025, industrial designs filed in Canada totalled 10,670, while Canadians filed 4,294 designs abroad in 2024. Over the past decade, industrial design activity has shown strong growth both domestically and internationally, with filings in Canada increasing by 83% and designs filed abroad by Canadians more than doubling.

Industrial designs filed in Canada

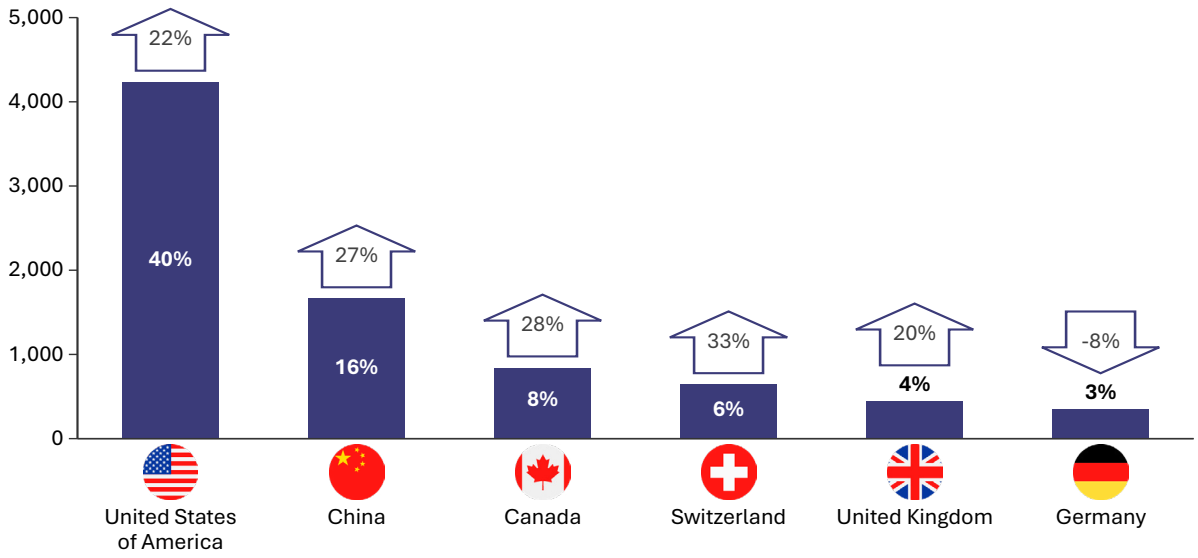
Figure 12 shows that industrial designs filed in Canada totalled 10,670 in 2025, representing a notable 16% increase from 2024. This growth was driven primarily by non-resident filings, which rose by 15% to 9,827 designs and continued to account for the vast majority of filings, representing 92% of the total. Designs filed by residents also increased significantly, rising by 28% (the highest annual growth rate registered over the last decade) to 843 counts and recovering from the decline observed in 2024. Over the 2015–2025 period, industrial design activity in Canada exhibited an 83% increase and a sustained upward trend, with annual positive growth recorded in every year except for a modest 1% decline in 2022. Overall, the data reflect a continued expansion of industrial design protection in Canada, driven largely by international demand.

Figure 12. Industrial designs filed in Canada, by residency status, 2016–2025



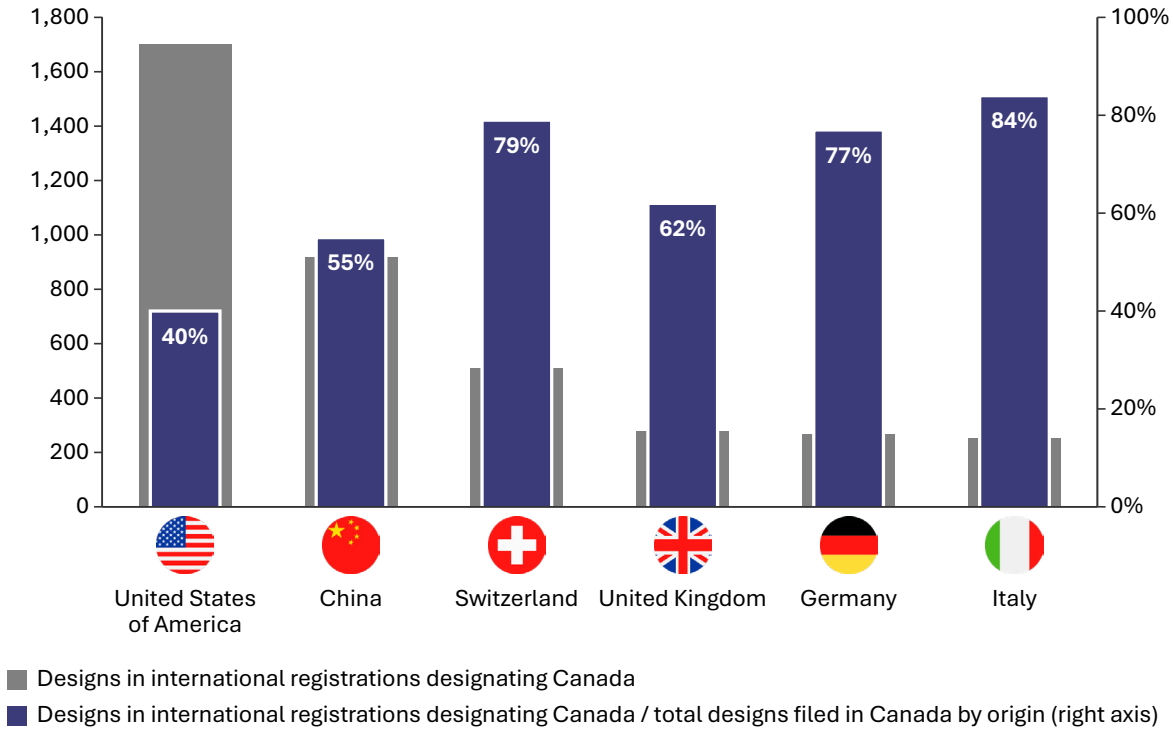
The top six filing jurisdictions filing for industrial designs in Canada in 2025 are presented in Figure 13. The United States remained the leading source of filings, with applications for 4,236 designs accounting for 40% of the total, and representing a strong increase of 22% compared with 2024. China ranked second with 1,664 designs and a 16% share, recording a notable 27% annual increase and uninterrupted positive growth since 2019. Canada followed with 843 designs, accounting for 8% of the total and showing a significant 28% annual increase. The top six ranking is completed by three European countries. Switzerland, the United Kingdom, and Germany accounted for 6%, 4% and 3% of designs filed, respectively. Switzerland exhibited the fastest growth at 33%, followed by the United Kingdom at 20%, while Germany recorded a decline of 8%. Overall, the composition of origin countries remained consistent with the past year, with broad-based growth observed across most major filing jurisdictions.

Figure 13. Top countries filing for industrial designs in Canada, 2025



Since Canada's accession to the Hague Agreement in 2018, applicants have been able to seek industrial design protection in Canada through international registrations administered by WIPO, alongside multiple other jurisdictions. In 2025, 5,300 designs were filed in international registrations designating Canada through the Hague system, which represented 50% of all designs received by CIPO and set a new record for the use of this filing route. Figure 14 presents the number of designs in international registrations designating Canada for the top six origins in 2025, along with their corresponding shares of total industrial design activity in Canada. The United States accounted for 1,700 designs, representing 40% of its total filings in Canada, a substantial increase from 14% in 2020, indicating a marked shift toward the use of the Hague system. China followed with 918 designs, corresponding to 55% of its filings in Canada, also reflecting a strengthening of reliance on this route. Among the four European countries that complete this figure, the use of the Hague system remained particularly pronounced, with Switzerland and Germany reporting shares of 79% and 77%, respectively, while the United Kingdom recorded a share of 62%. Italy exhibited the highest proportion among the top origins, with 84% of its designs filed in Canada coming through international registrations. Overall, these patterns highlight the central role of the Hague system in shaping industrial design filing strategies, particularly among European applicants, while its use continues to expand among other major origin countries.

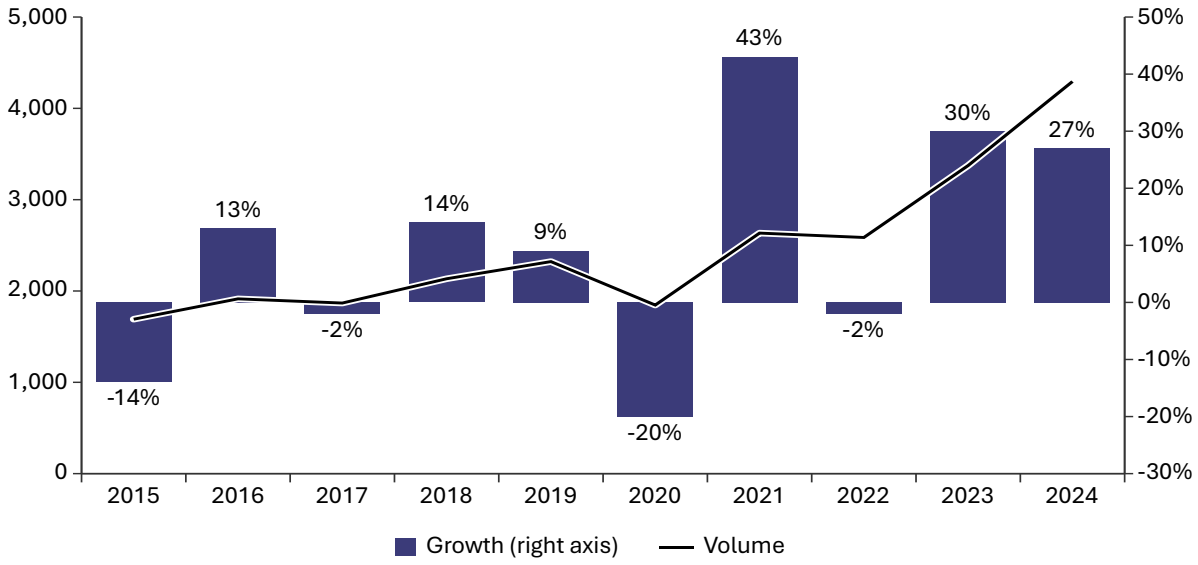
Figure 14. Top countries filing for industrial designs using the Hague system and designating Canada, 2025



Industrial designs filed abroad by Canadians

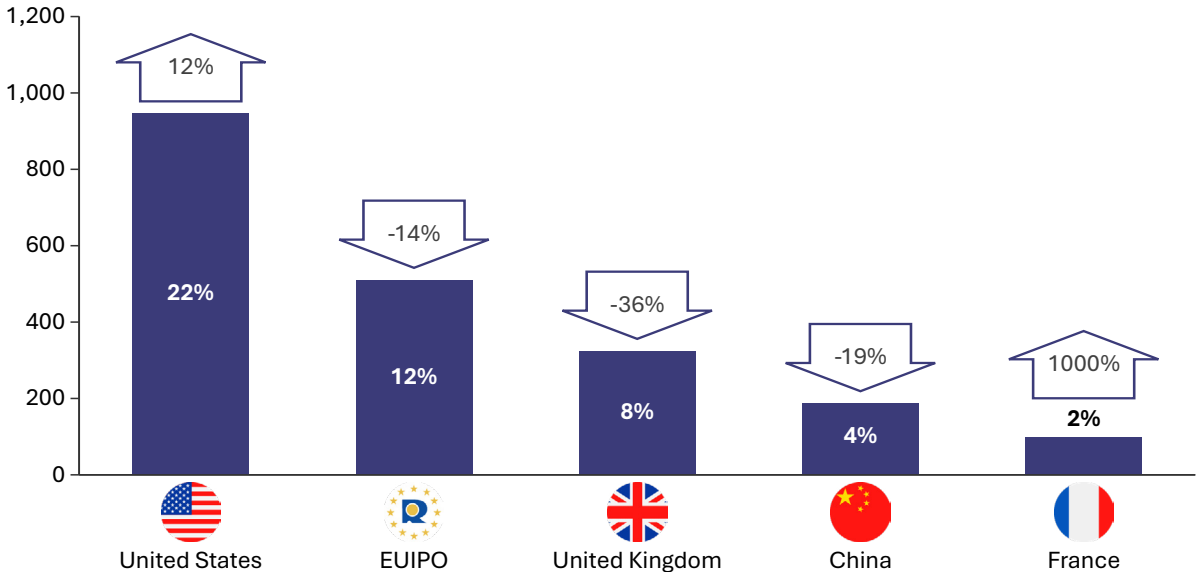
Annual industrial designs filed abroad by Canadians are tracked in Figure 15. In 2024, designs climbed to 4,294, a notable 27% increase from the previous year and the highest level recorded to date. Over the past decade, the volume of Canadian designs filed internationally has more than doubled, rising by 119%. The Hague system accounted for 58% of these filings in 2024, underscoring its growing importance as the preferred route for securing protection abroad.

Figure 15. Canadian industrial designs filed abroad, 2015–2024



The principal destinations for Canadians' industrial designs abroad in 2024 are displayed in Figure 16. These five jurisdictions combined made up 48% of Canadian industrial designs filed abroad, which contrasts with the high proportion of the top five destinations observed for patents and trademarks. The United States remained the leading destination, receiving applications for 946 designs, a 12% increase compared to 2023. The EUIPO followed with 510 designs, a decline of 14%. The United Kingdom received applications for 324 designs, dropping 36% from the previous year, while China recorded 187, a decrease of 19%. France entered the top five with 99 designs by Canadians.

Figure 16. Top international destinations for Canadian industrial design applicants, 2024



Conclusion

In 2025, industrial design activity in Canada reached a new peak of 10,670 designs and an annual growth rate of 16%, supported by strong growth in both resident and non-resident activity, with the latter continuing to account for the vast majority of designs filed. The distribution of origin countries did not change from 2024, with the United States leading by a wide margin, followed by China and several European countries exhibiting high levels of growth and strong reliance on the Hague system. Canadian applicants also significantly expanded their presence abroad, filing 4,294 designs in 2024, a 27% increase from the previous year and more than double its total over the 10-year period. Together, these trends highlight the sustained expansion of industrial design protection.



Plant breeders' rights

Plant breeders' rights (PBR) provide legal protection for new plant varieties, supporting innovation in agriculture and horticulture sectors by granting breeders exclusive rights over the commercialization of their varieties. The PBRO, operating within the CFIA, oversees the administration of the *Plant Breeders' Rights Act* and its associated regulations in Canada. Plant breeders' rights data offer insights into trends in plant innovation, varietal development and the international exchange of agricultural technologies. This section examines recent trends in PBR applications filed in Canada, with a breakdown between horticultural and agricultural varieties. In 2025, a total of 363 applications were filed in Canada, following a decline in 2024 and reflecting continued variability in annual filing volumes. Over the past decade, PBR activity has generally increased, rising from 283 applications in 2015 to a peak of 403 in 2023.

Plant breeders' rights applications filed in Canada

Plant breeders' rights applications filed in Canada totalled 363 in 2025, as shown in Figure 17, representing a 7% increase from 2024 and a partial recovery following the decline observed in the previous year. Of these, 59 applications were filed by residents, while 304 originated from non-residents, who continued to account for the majority of filings, representing approximately 84% of the total. The overall increase was driven by a strong rebound in non-resident filings, which rose by 14%, more than offsetting a 20% decline in resident applications. Over the past decade, plant breeders' rights activity in Canada has generally followed an upward trajectory, rising from 283 applications in 2015 to a peak of 403 in 2023, with a 10-year growth rate of 28%.

Figure 17. Plant breeders' rights applications in Canada, by residency status, 2016–2025

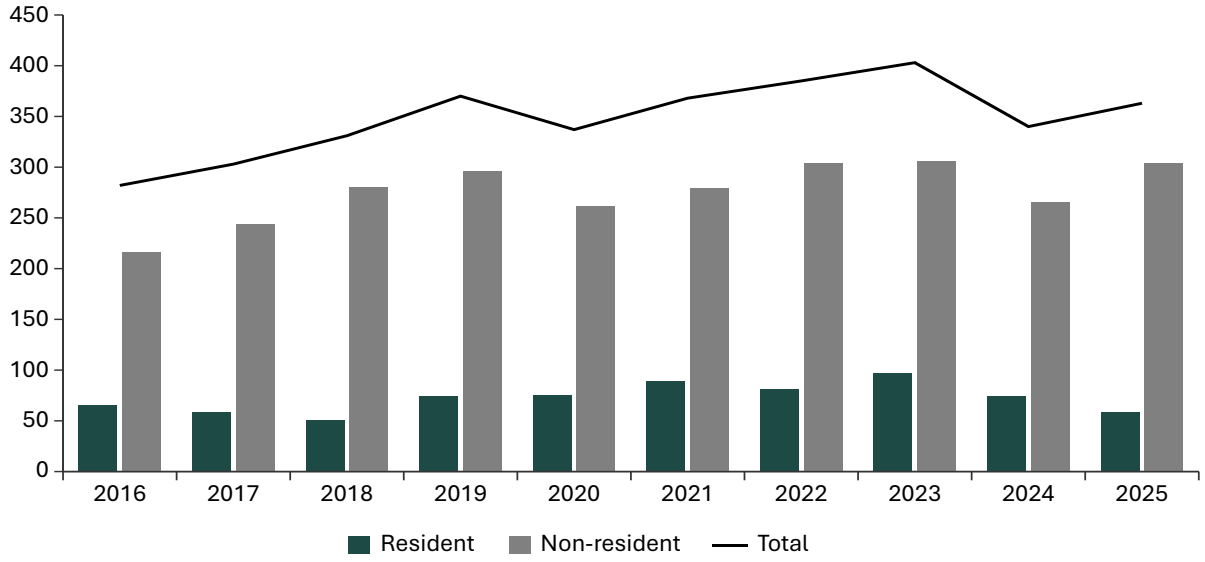
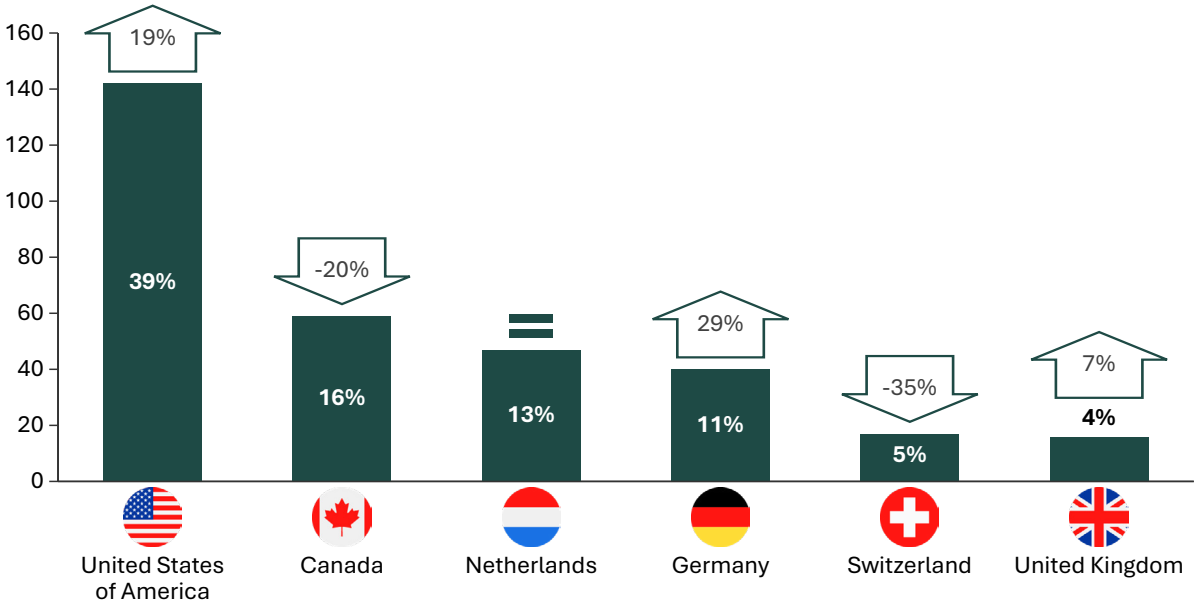


Figure 18 presents the top six countries filing for plant breeders' rights in Canada in 2025. The United States remained the leading origin, with 142 applications representing 39% of the total, reflecting a strong increase of 19% compared with 2024. Canada ranked second with 59 applications and a 16% share, although this marked a decline of 20% from the previous year. The Netherlands followed with 47 filings, accounting for 13% of the total and remaining stable year over year. Germany recorded 40 applications, representing 11% of filings and the strongest growth among the top origins at 29%. Switzerland and the United Kingdom completed the group, with 17 and 16 applications, corresponding to 5% and 4% shares, respectively; filings from Switzerland declined by 35%, while those from the United Kingdom increased by 7%. Together, these six countries accounted for approximately 88% of all plant breeders' rights applications filed in Canada, underscoring the high concentration of filings among a small group of leading origins.

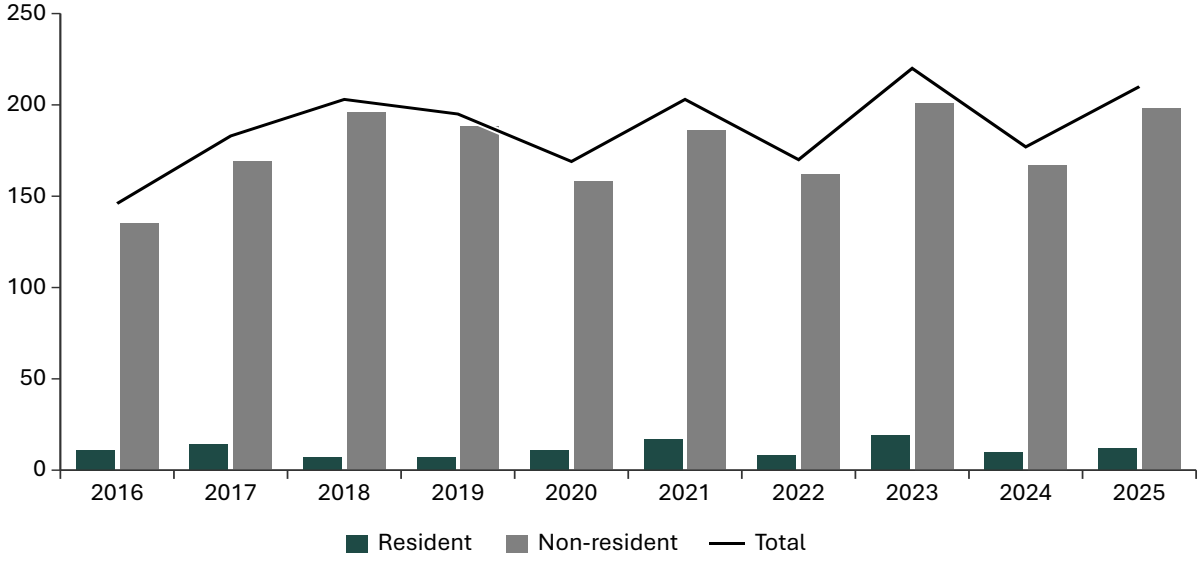
Figure 18. Top countries filing for plant breeders' rights in Canada, 2025



Filing activity by variety group – Horticultural

Horticultural plant breeders' rights activity in Canada increased to 210 applications in 2025, as shown in Figure 19, representing a 19% increase from 2024 and a recovery from the previous year's decline. This growth was driven primarily by non-resident filings, which rose by 19% to 198 applications and continued to dominate the sector, accounting for approximately 94% of the total. Resident filings increased more modestly, rising from 10 to 12 applications, representing 6% of activity. Over the 2015–2025 period, horticultural filings exhibited fluctuations but remained broadly stable, with the 2025 level close to the peak observed in 2023 and an overall 22% growth. While non-resident activity has remained the primary driver of trends, resident filings have shown modest growth over the decade, contributing to the overall resilience of the sector despite short-term variability.

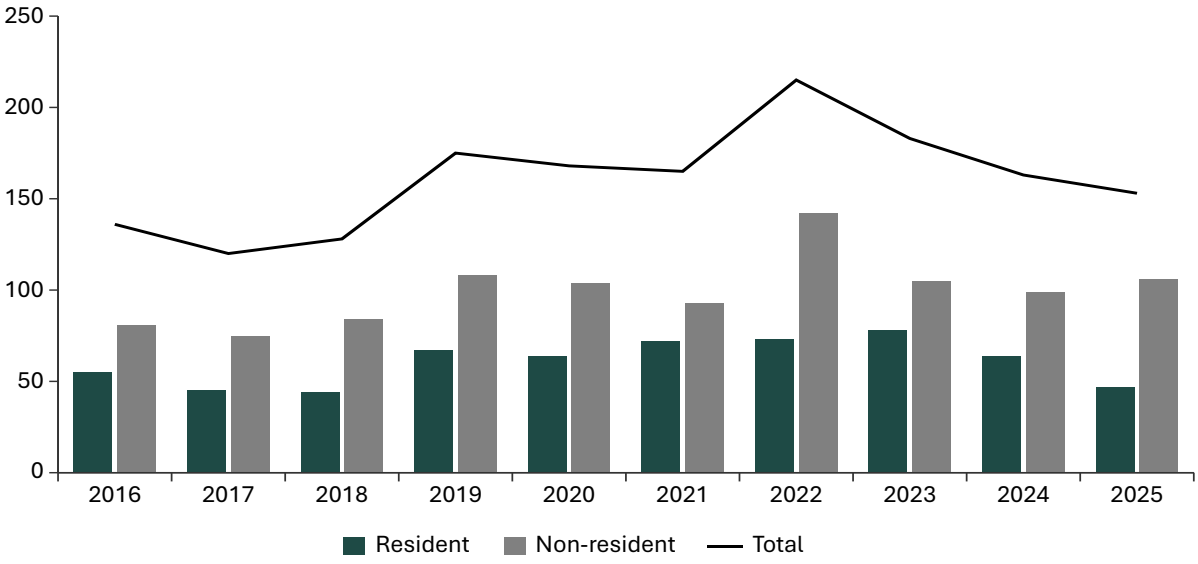
Figure 19. Plant breeders' rights applications for horticultural varieties in Canada, by residency status, 2016–2025



Filing activity by variety group – Agricultural

In 2025, there were 153 plant breeders' rights applications filed for agricultural varieties in Canada. Figure 20 shows a 6% decline from 2024 and marks the third consecutive year of decreasing filings. This continued contraction follows the peak observed in 2022, when applications reached 215, and reflects declines in both resident and non-resident activity over the subsequent period. Resident filings fell sharply by 27%, from 64 to 47 applications, reducing their share to approximately 31% of the total. Non-resident filings increased modestly by 7% to 106 applications, partially offsetting the drop in domestic activity. Compared with horticultural varieties, agricultural varieties filings remain more evenly distributed between residents and non-residents, although recent trends point to growing dominance by foreign applicants. Over the 10-year period, agricultural filings have shown a 38% growth, despite considerable year-to-year variability and the recent downward trend.

Figure 20. Plant breeders' rights applications for agricultural varieties in Canada, by residency status, 2016–2025



Conclusion

In 2025, plant breeders' rights activity in Canada showed a partial recovery, with total applications increasing 7% following the decline observed in 2024. This increase was driven by a rebound in non-resident filings, which reached 304 applications and continued to account for the majority of activity, while resident filings declined to 59. The United States remained the leading origin, followed by Canada and the Netherlands. Trends differed across variety types: filings for horticultural varieties rebounded strongly to 210 applications, driven almost entirely by non-resident filings, while filings for agricultural varieties declined for a third consecutive year to 153 applications, with a higher incidence of resident activity. Over the 10-year period, total plant breeders' rights filings increased by 28%, supported by long-term growth in both horticultural and agricultural varieties despite recent fluctuations. Together, these trends highlight the continued importance of international demand in shaping plant breeders' rights activity in Canada.



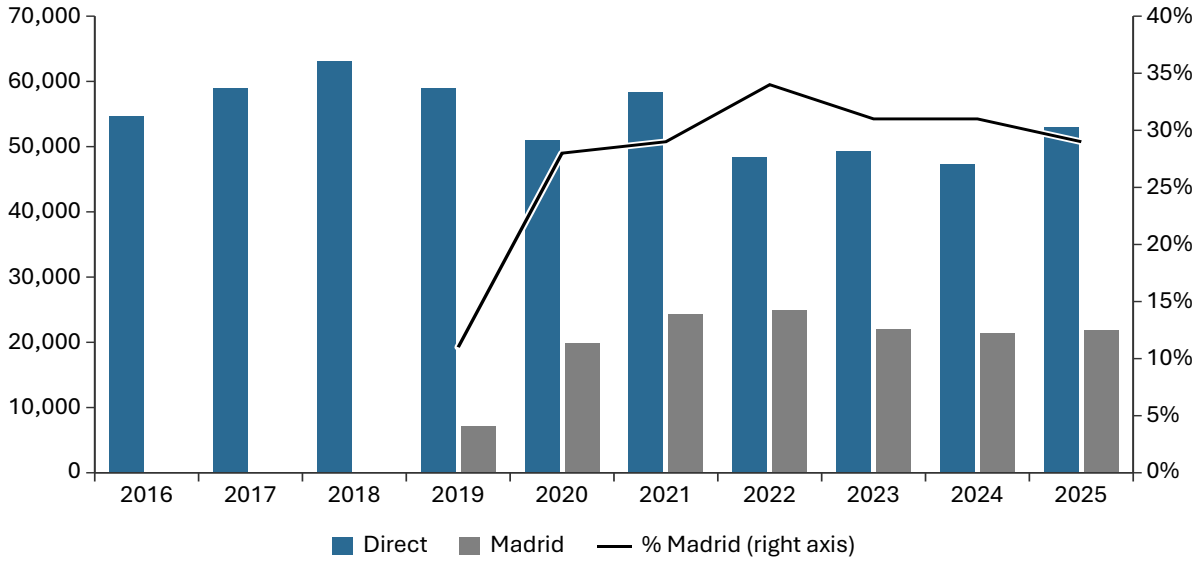
Canada's first five years as member of the Madrid Protocol

On June 17, 2019, Canada acceded to the Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks, also known as the Madrid Protocol. In Canada becoming a contracting party to the Madrid system, foreign trademark owners are offered the option to seek protection in Canada via international registrations administered by WIPO, while also enabling Canadian applicants to use the system to file abroad through CIPO as the office of origin. Accession to the Protocol required significant legislative and administrative reforms to conform Canada's trademark framework with international standards, including the introduction of individual fees and extended refusal periods. This milestone marked Canada's entry into an already mature and widely used international trademark system.[12]

12 CIPO, 2019. CANADA - Contracting Party to the Madrid Protocol

A typical approach to analyze the use of the Madrid system is through the division of applications by filing route. Figure 21 presents trademark applications filed in Canada between 2016 and 2025, distinguishing between direct applications and those designating Canada through the Madrid system, and tracking the corresponding proportion of Madrid filings over time. In 2019, the year Canada joined the Protocol, Madrid filings accounted for 11% of total applications.[13] This share increased sharply in 2020 to 29%, driven both by the rapid uptake of the Madrid system following accession and by broader shifts in filing behaviour during the onset of the COVID-19 pandemic. Thereafter, the Madrid share stabilized at a relatively high level, peaking at 34% in 2022 and fluctuating between 29% and 31% throughout 2025. Over this period, Madrid filings remained persistently above 20,000 applications per year, while direct filings exhibited variations. The remainder of this section will delve deeper into these observations.

Figure 21. Trademark applications in Canada, by filing route, 2016–2025



13 This proportion corresponds to filings between June 17 and December 31, 2019.

Canada as a Madrid designation: General statistics and indicators

This subsection presents Canada's positioning as a Madrid member, using 2024 data on designations in international applications, also known as Protocol applications.[14] The analysis focuses deliberately on non-resident filings, rather than totals, in order to better reflect the international dimension of the Madrid system. Total filing volumes and proportions based on total activity bring bias among jurisdictions with a large incidence of applications by residents, thus disguising the importance of the Madrid system as an option for international activity. Table 1 ranks the top 10 Madrid designations by the number of non-resident filings received in 2024. On this basis, Canada ranks fourth globally, behind the United Kingdom, the United States, and the EUIPO. This is a notable result in absolute terms, placing Canada ahead of significantly larger jurisdictions in terms of domestic market size or overall trademark activity. Beyond absolute volumes, two structural indicators are particularly informative. The first is the Madrid-to-non-resident ratio, which captures the extent to which foreign applicants rely on the Madrid system, rather than direct filings, when seeking protection in a given jurisdiction. Here again, Canada occupies a strong position: 44% of all non-resident filings in Canada are made through Madrid, the fourth-highest share among the top 10 destinations. This suggests that Madrid has become not merely a supplementary filing route when filing in Canada, but a core mechanism through which foreign trademark protection is sought. As seen in the Trademarks section earlier (Figure 8), the share of non-resident filings in total applications reached 65% for Canada in 2025. This proportion is the highest among the top 10 destinations presented in the table, emphasizing the international composition of trademark demand in Canada.

14 Applications filed through the Madrid system that designate Canada are referred to as Protocol applications under Canadian legislation. Technically, Protocol applications will always be filed by non-residents since Canadians generally cannot designate their own country; they must have a base application in their country of origin.

Table 1 also reports the two main origins of non-resident Madrid designations for each destination. Finally, the table introduces a non-resident origin concentration indicator, defined as the ratio between filings from the first and second origin countries. Ratios closer to one indicate a more balanced origin structure, whereas higher values signal a strong concentration in a single source country. Canada ranks fourth on this measure among the top 10 destinations, indicating a non-resident filing mix tilted toward its main origin, the United States. By comparison, the United States exhibits a strikingly high ratio, reflecting a much stronger dominance of China as leading non-resident origin. Taken together, these indicators confirm Canada's position as a major and structurally distinctive Madrid member. Its high absolute intake of non-resident Madrid filings, combined with a strong reliance on the Madrid system among foreign applicants and a uniquely internationalized filing base, leaves Canada ranking higher within the group of leading global designations of applications via the Madrid system.

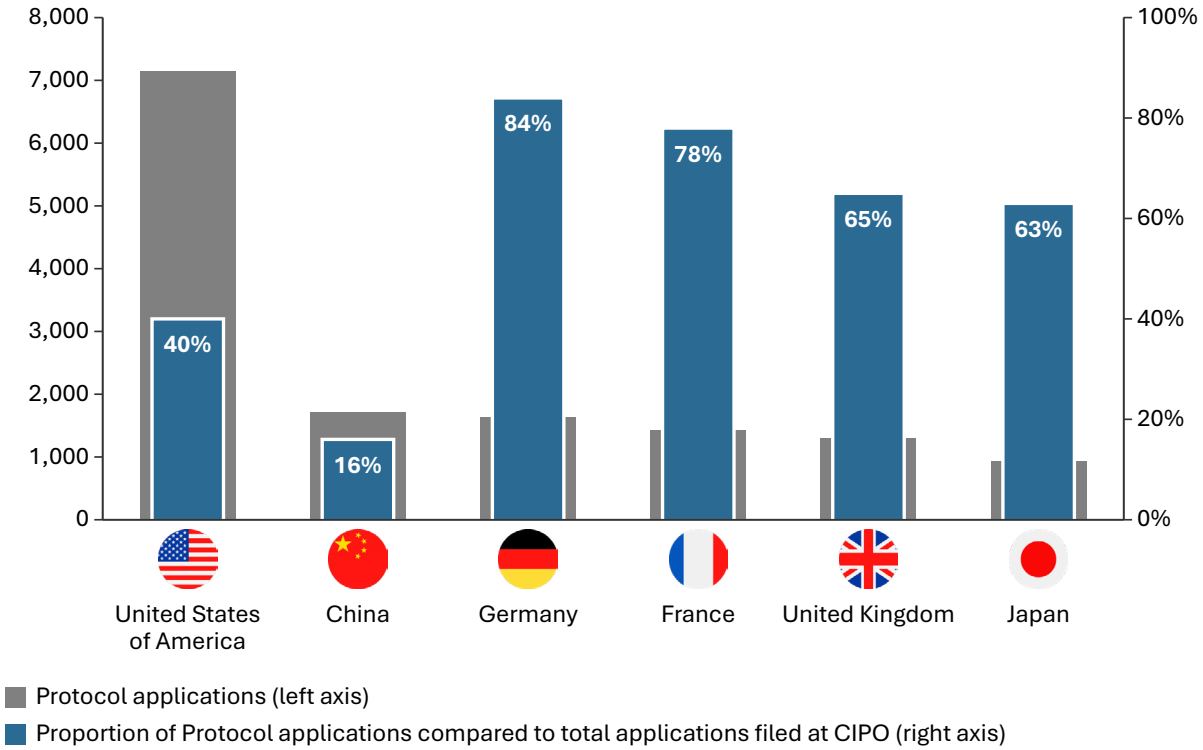
Table 1. Top 10 designations in Protocol applications by non-residents, 2024[15]

Top 10	Madrid	Non-resident	Madrid/ Non-resident	Origin 1 (O1)		Origin 2 (O2)		Ratio O1/O2
United Kingdom	28,796	82,371	35%	31,761	CN	15,527	US	2.05
United States of America	24,958	228,312	11%	153,622	CN	8,664	CA	17.73
EUIPO	21,581	77,340	28%	27,562	CN	22,018	DE	1.25
Canada	**19,826**	**45,332**	**44%**	**17,870**	**US**	**9,859**	**CN**	**1.81**
China	21,581	184,500	10%	35,399	US	26,977	GB	1.31
Australia	15,659	36,632	43%	11,909	CN	8,656	US	1.38
Japan	15,539	41,836	37%	15,720	CN	7,649	US	2.06
Switzerland	13,933	18,555	75%	4,761	DE	2,880	US	1.65
Republic of Korea	12,339	27,629	45%	8,899	CN	5,875	US	1.51
India	12,243	26,005	47%	6,634	US	4,008	CN	1.66

15 The other countries of origin abbreviated in the table are Germany (DE) and the United Kingdom (GB).

In Canada, the top origins of Protocol applications in 2024 are presented in Figure 22, with outer bars representing total application volumes and inner bars indicating the share of filings made via the Madrid system. European applicants rely heavily on the Madrid system when seeking trademark protection in Canada; in 2025, Germany, France, and the United Kingdom rank among the top filers and exhibit high Madrid shares, ranging from 65% to 84%. Japan also demonstrates a relatively strong use of the system, with nearly two thirds of its filings made via the Madrid system. In contrast, applicants from the United States and China, while remaining the largest sources of Protocol applications in absolute terms, make comparatively greater use of direct filings, resulting in lower Madrid filing shares, at 40% for the United States and 16% for China.

Figure 22. Top countries filing for trademarks using the Madrid system and designating Canada, 2025



First five years of Canada in the Madrid Protocol: A comparative perspective

This subsection examines Canada's first five years as a member of the Madrid Protocol in comparative perspective, with the aim of identifying whether Canada's experience differs from that of other recent accessions. To this end, the analysis focuses on a selected group of countries that (i) joined the Madrid Protocol relatively recently and (ii) are non European. European jurisdictions are deliberately excluded, as the presence of the EUIPO creates a partial substitute to the Madrid system that materially alters applicant behavior and would confound direct comparisons. For comparability, time is normalized across countries by resetting the year of accession to the Madrid Protocol as Year 1, with subsequent years indexed accordingly. The analysis concentrates on the proportion of trademark applications received via the Madrid system, rather than absolute volumes, in order to isolate behavioral adaptation to Madrid from market size.

The first five years of Canada as a member of the Madrid Protocol are presented in Figure 23, measured as the percentage of trademark applications received via the Madrid system, for Canada and five selected countries: Australia, Japan, Mexico, the Republic of Korea, and the United States. Canada distinguishes itself clearly across several dimensions. First, Canada exhibits the highest Madrid system share already in Year 1, exceeding the second-highest country in the sample (Australia) by nearly 15 percentage points. This initial level is not only high in relative terms, but also well above what is observed for other recent joiners, which tend to begin with more modest Madrid system uptake and converge gradually over time. Second, Canada attained what appears to be its steady-state level of Madrid system use at a markedly faster pace than the other countries. Depending on how one defines normal year-to-year variation, it is plausible to argue that Canada had effectively reached its steady state as early as the first year following accession. Even under a more conservative definition where the steady state is identified as the point at which strictly positive monotonic growth is broken, Canada would arguably have reached this point by Year 3, still significantly earlier than its peers. Given Canada's already high initial starting point, the third dimension is that Canada displays the flattest trajectory among the countries examined, which may suggest that it acceded to the Madrid Protocol at a level of use already close to its long-run steady state. As a result, the relatively limited growth observed in the early years appears to reflect a much faster adoption process than the other five jurisdictions in the sample, where sharper early growth reflects a slower initial integration of the Madrid system into their filings. Taken together, these patterns are consistent with Canada acceding to an already mature and well-functioning international trademark system, benefiting from fully developed applicant expectations, professional familiarity with Madrid procedures, and established international filing strategies. The result is an unusually high level of immediate adoption and a rapid convergence to long-run behavior.

Figure 23. First five years of Canada and selected countries in the Madrid Protocol – percentage of trademark non-resident applications received via the Madrid system

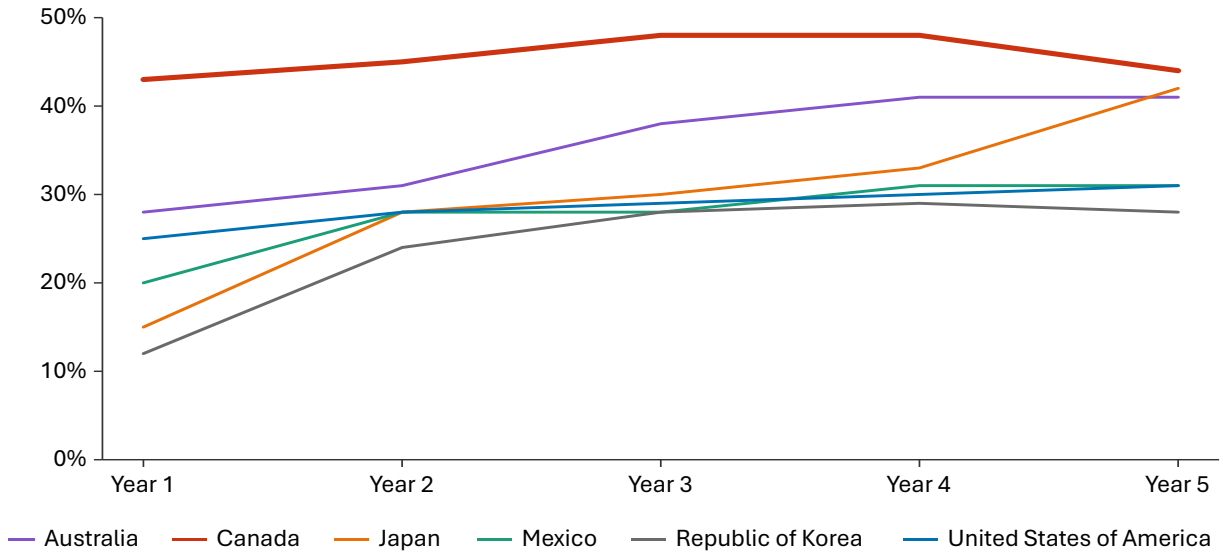
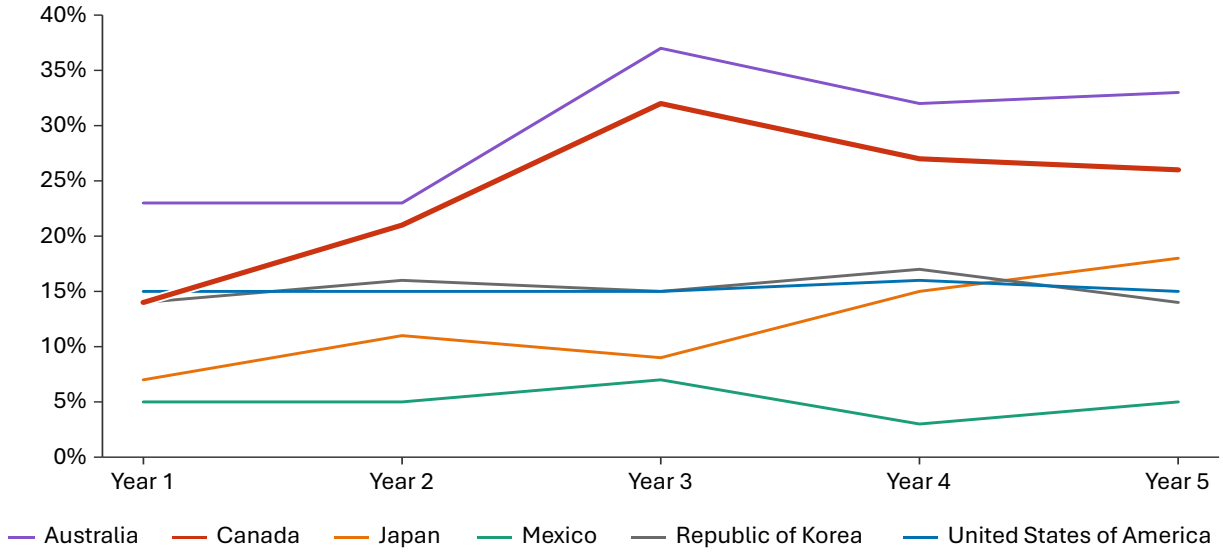


Figure 24 presents a similar analysis of the proportion of Madrid filings, but this time for trademark applications filed abroad, i.e. treating the six jurisdictions as origins instead of destinations. Canada remains distinctive in this area as well, with the second highest Madrid share among the countries considered during the first five years following accession. In this case, however, the cross country differences are less pronounced than for inbound filings. Several comparative countries also reach their steady state levels relatively quickly, suggesting that adaptation on the applicant side may be faster when the Madrid system is used as a tool for outward expansion rather than market entry. Canada's experience nonetheless remains notable, reinforcing the view that Madrid was rapidly integrated into filing strategies by Canadian applicants as well.

Figure 24. First five years of Canada and selected countries in the Madrid Protocol – percentage of trademark applications filed abroad via the Madrid system



The use of the Madrid system during the COVID-19 pandemic

Trademark activity has traditionally been closely associated with economic growth, business formation, and market expansion. The COVID-19 pandemic disrupted this relationship in ways that were both abrupt and uneven across countries, sectors, and filing routes. The pandemic altered both the level and the composition of activity, including the relative use of direct national filings and international systems such as the Madrid Protocol. This subsection examines how the use of the Madrid system evolved during the pandemic. Given the heterogeneous timing of lockdowns, reopenings, and economic recovery across jurisdictions and industries within, the analysis uses a multi-year window that extends beyond the immediate pandemic years. The emphasis is placed on non-resident filings, as they are more directly informative of international market strategies and cross-border uncertainty.

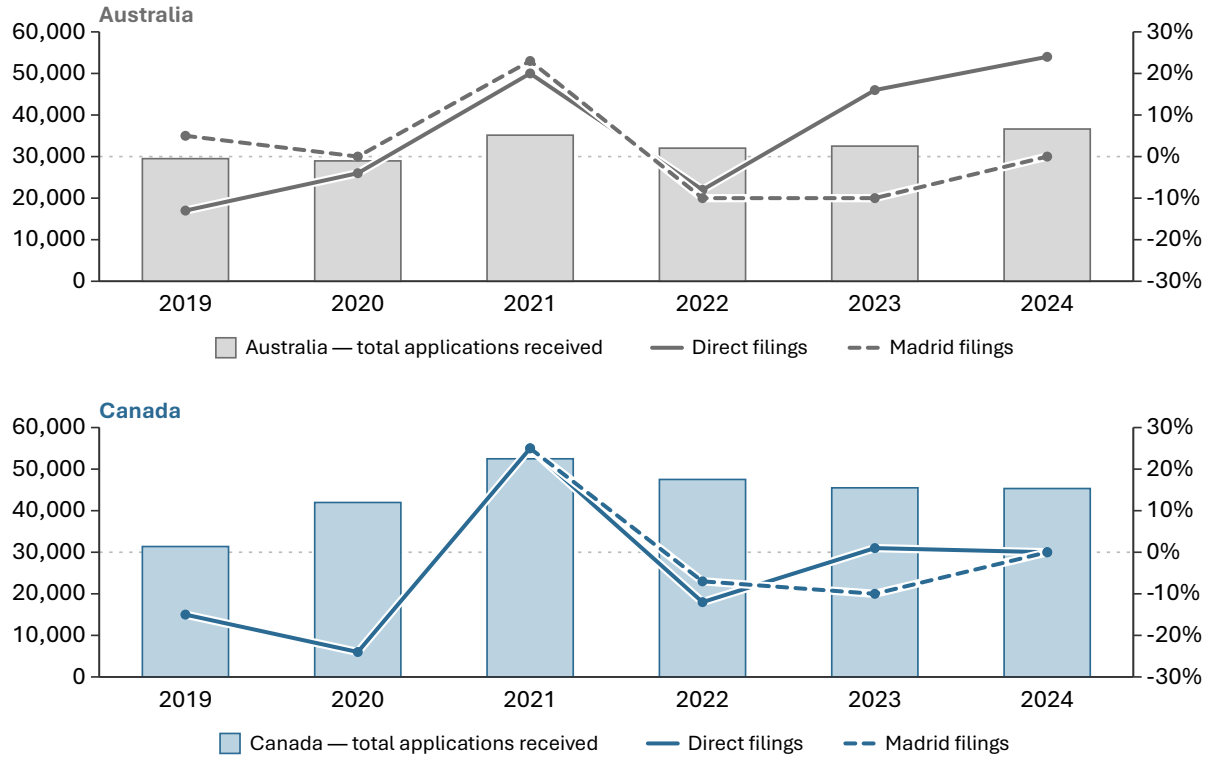
Canada and Australia – Comparative analysis

To provide context, the analysis focuses on Canada and Australia, a useful comparator given its recent accession to the Madrid Protocol, similar economic structure, and absence of confounding factors such as supranational IP institutions. Figure 25 traces non-resident trademark filings in Canada and Australia, distinguishing between total non-resident filings, and the percentage changes in the use of the direct and Madrid system filing routes. The first year of the pandemic (2020) already reveals markedly different short-term responses from demand. In Australia, total non-resident filings declined modestly, by roughly 2% (28,959 applications), reflecting a decrease in direct filings that was almost entirely offset by Madrid applications. In Canada, by contrast, Madrid filings had already accounted for around 45% of total non-resident activity by 2020, a share that remains close to the highest observed over the period.[16] In 2021, both countries experienced a strong uptake in non-resident filings, consistent with broader post shock recovery in economic activity. In Australia, overall non-resident filings increased by roughly 21%, with direct and Madrid filings growing at comparable rates, indicating a broad based expansion rather than a reallocation between filing routes. Canada displays a similar pattern in this year, with non-resident activity growing by a further 25% and with direct and Madrid filings contributing almost equally to that increase. In both jurisdictions, the use of the Madrid system continued to move in tandem with direct filings rather than acting as a substitute.

16 In Canada's case, the annual growth in Madrid filings in 2020 is mechanically large (over 1,700%) and not analytically informative. It is therefore not covered by this analysis and not included in Figure 25.

The year 2022 marked an inflection point. Both Canada and Australia exhibit a clear deceleration in non-resident trademark activity, signaling a normalization phase after the combined effects of accession dynamics in Canada's case, and demand for trademarks during the pandemic. In both jurisdictions, direct and Madrid Protocol filings again track one another closely during the slowdown. A more pronounced divergence between filing routes emerges in 2023 and continues into 2024. In Australia, while direct non-resident filings grow strongly (by approximately 16% in 2023), Madrid system filings decline by about 10%, breaking the previously aligned movement between the two filing routes. Canada exhibits a similar qualitative pattern: non-resident filings recover in 2023, but the rebound is entirely driven by direct filings, with Madrid system volumes remaining flat or declining slightly. These contrasting dynamics suggest that the post-pandemic period may have altered the relative role of the Madrid system vis à vis direct filings, even in jurisdictions where the Madrid Protocol had proven resilient during the initial shock.

Figure 25. Trademark non-resident applications received by Australia and Canada, 2019–2024

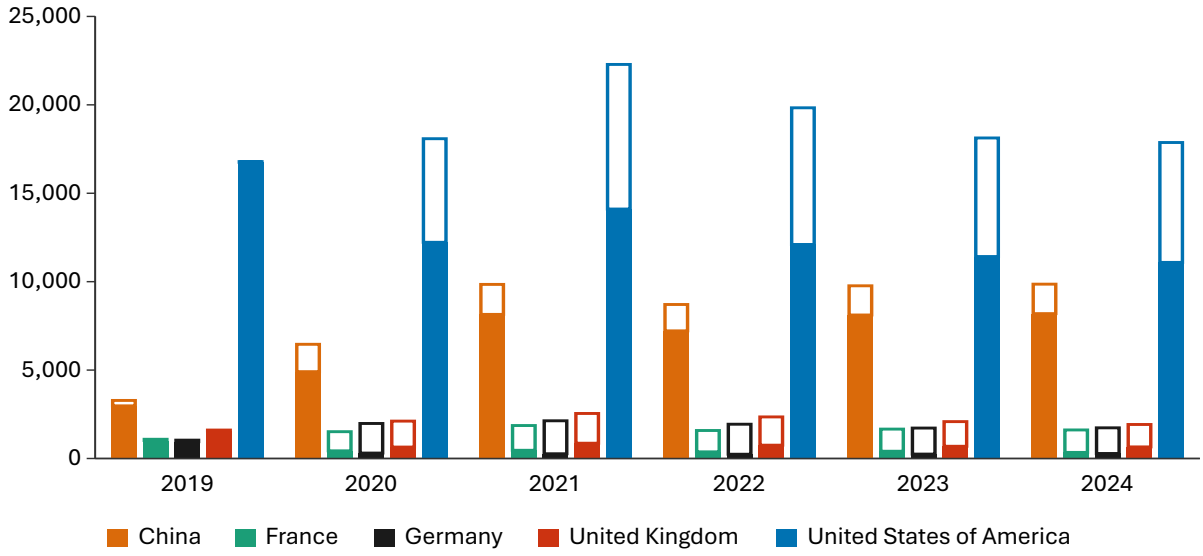


Overall, Figure 25 highlights both convergence and divergence in the pandemic era experience of Canada and Australia. In the early phase of the pandemic and during the initial recovery, Madrid filings appear to have offered a degree of stability, moving largely in parallel with direct activity. In the later post-pandemic period, however, both countries exhibit a relative decoupling between the two filing routes, raising questions about whether recent trends reflect temporary adjustment or more durable changes in filing strategies.

Filing behaviour of top origins in Canada during the pandemic

Beyond aggregate trends, the pandemic period also reveals meaningful differences across major filing origins. Figure 26 focuses on the top five non-resident filers in Canada over the 2019–2024 period, reported in filing counts and disaggregated by filing route, with Madrid applications indicated as the white portions of the bars. Two structural patterns stand out immediately. First, the Madrid Protocol share of filings from the two largest origins (the United States and China) is systematically lower than that of the next three origins, all of which are European. This pattern persists throughout the period and reinforces the idea that the Madrid Protocol plays a comparatively stronger role in European international trademark strategies than in those of applicants from China and the United States. Second, the figure confirms that the Madrid system uptake among major origins reached its steady state level relatively quickly, particularly once initial accession effects are absorbed. For most origins, large shifts in the Madrid system share occurred early, followed by stabilization within a narrow band; an important backdrop for interpreting pandemic era fluctuations.

Figure 26. Trademark applications in Canada by selected origins filed directly at CIPO (coloured parts) and via the Madrid system (white parts), 2019–2024



Within this stable structural context, however, the pandemic reveals asymmetric origin specific responses, especially for the two dominant filers. China exhibits a sharp but temporary intensification of Madrid use at the onset of the pandemic in 2020, reaching a record 24%, before declining and stabilizing at approximately 17% in subsequent years. The strong growth in Chinese filings observed the next year was driven overwhelmingly by direct filings, which increased by roughly 66% year over year, compared to a much more modest 10% growth in Madrid filings. This suggests that the post shock expansion of Chinese trademark activity relied primarily on direct route strategies rather than an acceleration of Madrid system adoption. The United States displays a different dynamic. In 2020, the initial 8% increase in filings in Canada from the United States was heavily influenced by Madrid filings, with the Madrid system share rising to approximately 32%. Unlike China, however, this was not the peak. The Madrid proportion of American filings continued to increase, and reached a record level of about 39% in 2022.

Moreover, the strong growth in American filing activity in 2021 was weighted decisively toward Madrid filings, on the order of 40% growth, compared to about 15% for direct filings. When overall activity declined in 2022, the adjustment again fell disproportionately on direct filings (roughly 14% decrease), while Madrid filings proved significantly more resilient (approximately 5% decrease).

Taken together, these patterns underscore an important point for understanding the Madrid system dynamics during the pandemic. While the aggregate uptake of the Madrid Protocol was indeed influenced by the behaviour of the largest filers, the underlying mechanisms differ sharply by origin. These origin specific dynamics help explain why aggregate trends can mask substantial heterogeneity in behaviour. They also reinforce the value of examining filing composition alongside volumes when assessing the role of the Madrid system under conditions of economic stress.

Conclusion

Canada's first five years as a member of the Madrid Protocol reveal a pattern of rapid and structurally distinctive integration into the international trademark system. Canada has quickly emerged as one of the leading global destinations for Madrid designations, ranking fourth worldwide by non-resident filings in 2024, and displaying one of the highest proportions of Madrid filings among non-resident trademark activity. Comparative analysis shows that Canada entered at an unusually high level of use of the system, reached its steady state adoption faster than other jurisdictions that joined the Protocol recently, and exhibited limited transitional growth precisely because the Madrid system was already deeply embedded in applicant strategies at entry. The COVID-19 pandemic period further reinforces this characterization. While it disrupted trademark activity unevenly across jurisdictions and filing routes, Madrid system filings in Canada displayed notable resilience, particularly during periods of uncertainty and adjustment. Taken together, the evidence supports the view that Canada's experience reflects the accession of a major trademark destination to a fully mature international system, with immediate high uptake, rapid stabilization, and sustained relevance of the Madrid system for both inbound and outbound trademark activity.



Productivity among firms patenting in 4IR technologies: A focus on Canadian firms

Every few generations, a transformative technology emerges and rewires the whole economy. Each industrial revolution has been built on one or more general-purpose technologies. The steam engine in the 1770s set off the First Industrial Revolution, mechanizing production. A hundred years later, Werner von Siemens' dynamo in 1866 and Thomas Edison's light bulb in 1879 launched the Second Industrial Revolution, built on electricity, which remade factories, homes, and cities. Then in 1969, engineers at Intel built the first microprocessor, and the Third Industrial Revolution, the age of information and communication technology (ICT), began.

We are now living through the fourth such revolution. The Fourth Industrial Revolution, or 4IR, encompasses many advanced technologies, such as AI, connectivity beyond 5G, and quantum computing. Recent research suggests that some of these technologies, particularly AI, are beginning to display the features of a new general-purpose technology.

In 2025, CIPO and ISED commissioned the OECD to conduct research on 4IR patenting and firm productivity.[17] This study organizes 4IR into a taxonomy of 21 technology fields across three domains: core technologies (IT hardware, software, and connectivity), enabling technologies (data management, core AI, 3D support systems, power supply, data security, quantum, and others), and application domains (vehicles, consumer goods, healthcare, agriculture, services, and more). Using patents as a proxy for innovation, the study looks at firms at the frontier of 4IR and investigates how their patenting activity relates to their economic performance, with a focus on companies operating in Canada.

17 Calvino, F. et al. (2025), "Productivity among firms patenting in fourth industrial revolution technologies: A focus on Canadian firms", *OECD Science, Technology and Industry Working Papers*, No. 2025/18, OECD Publishing, Paris

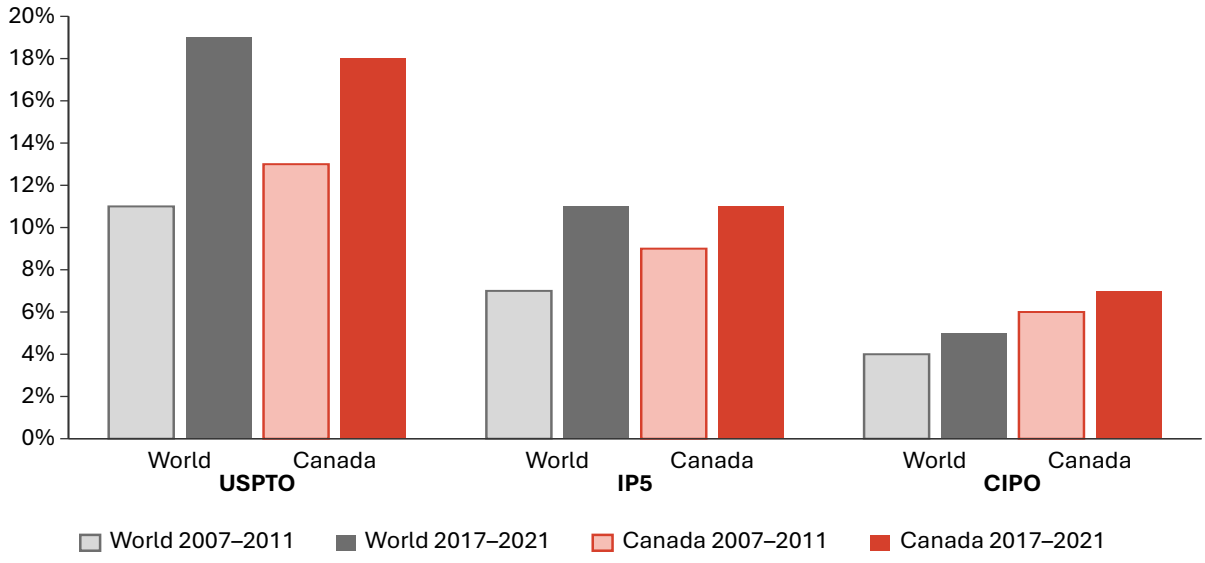
Overview of patenting in 4IR

As observed in Figure 27, inventions in 4IR technologies have increased sharply in recent years across all three reported filing routes, defined as follows:

1. The United States Patent and Trademark Office (USPTO);
2. IP5 families, which include filings to the five largest intellectual property offices in the world: the USPTO, the EPO, the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), and the National Intellectual Property Administration (CNIPA) in China; and
3. CIPO

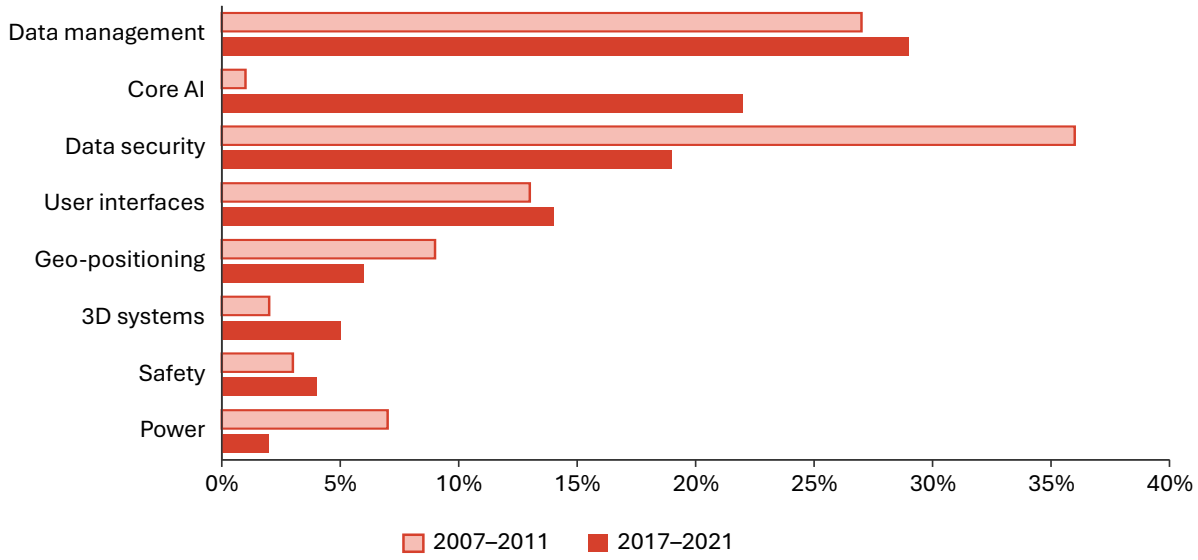
Applicants in Canada also expanded their 4IR patenting activity, though at a slower pace than the global average, and predominantly file at the USPTO rather than locally. The share of 4IR patents in Canadian resident firms' portfolios has increased across all filing routes considered, and sits above the worldwide average for CIPO and IP5 patent families. Over the 2017–2021 period, 4IR technologies represented 7% of total patents filed by Canadians at CIPO, compared to almost 18% of USPTO patents filed by Canadian residents over the same period.

Figure 27. 4IR patents by filing route, 2007–2011 (pale) and 2017–2021 (solid)



While core technologies continue to dominate patent filings in 4IR, enabling technologies have seen an impressive increase and growing diversification in all countries between 2007 and 2011, and between 2017 and 2021. Figure 28 shows that core AI patents have surged in recent years in Canada. Indeed, they accounted for 22% of enabling technology patents in 2017–2021, compared to 1% in 2007–2011. Data management has emerged as the largest category among enabling technologies in 2017–2021, overtaking data security, which declined over the same period.

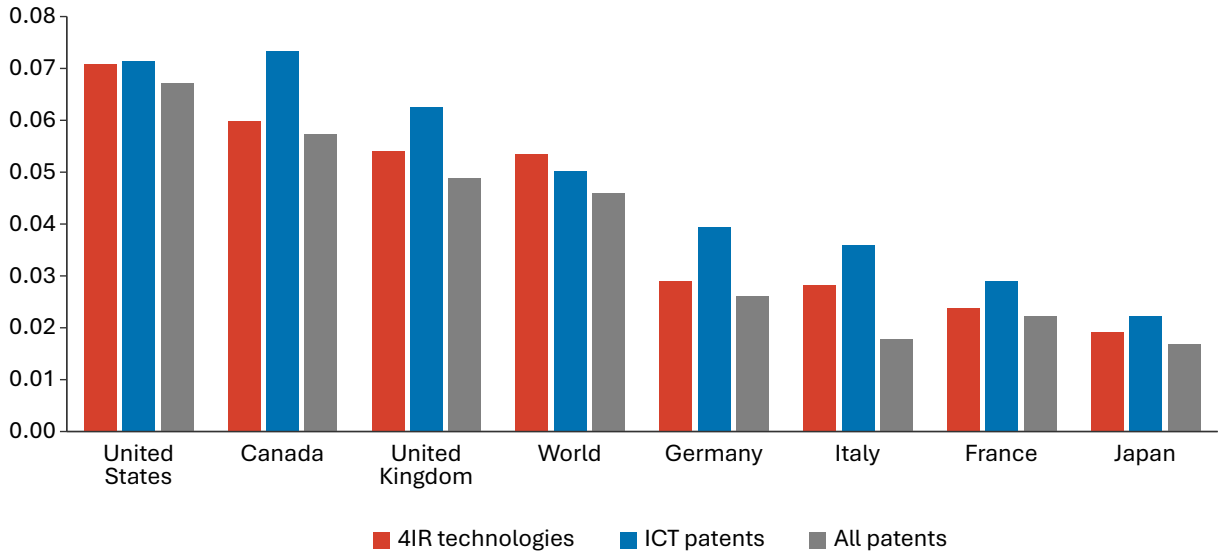
Figure 28. Share of 4IR technologies in enabling technologies, Canada, 2007–2011 (pale) and 2017–2021 (solid)



Characteristics of 4IR patents

A close examination of the earlier patents cited in a patent document (called backward citations or prior art) reveals the technological domains on which a 4IR patent draws. Applying this lens, Canadian 4IR patents have stronger links with prior art in IT methods and medical technology compared to all 4IR patents in 2017–2021. Patents can cite not only prior patents, but also scientific articles deemed relevant by the applicant. A higher share of such non-patent references is often seen as a marker of more complex, fundamental knowledge, and thus, of higher technological value. Using the citation to non-patent literature (NPL) index, Canada ranks among the top countries building 4IR inventions on scientific knowledge, as shown in Figure 29.[18]

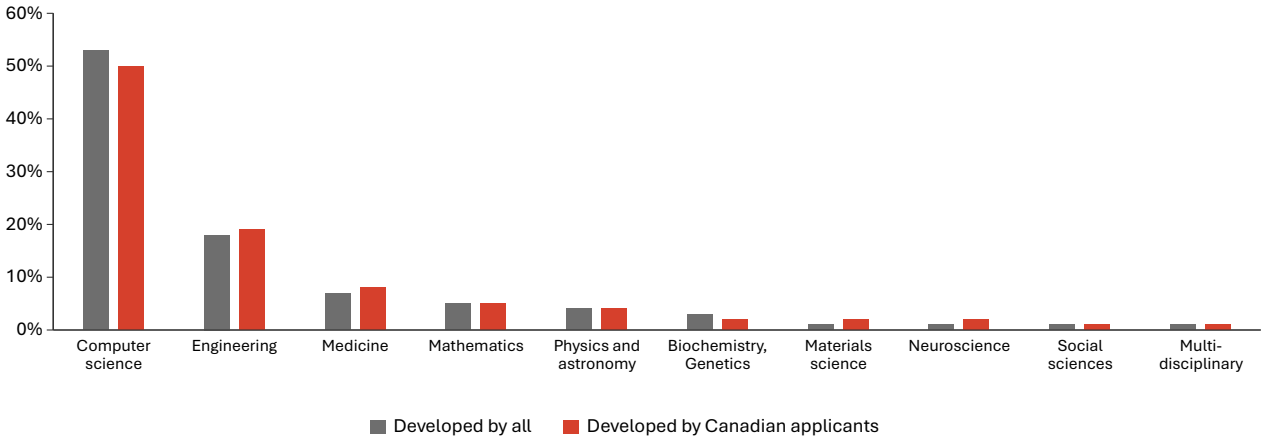
Figure 29. Citations to NPL in 4IR patents, normalized index, 2017–2021



18 The citation to non-patent literature (NPL) index is calculated as the number of NPL citations included in a patent divided by the maximum number of NPL citations of patents belonging to the same year and technology cohort.

Figure 30 shows that Canadian patents in 4IR mainly draw from the field of Computer Science, consistent with all 4IR patents. However, Canadian 4IR patents appear to rely more on scientific knowledge from Engineering and Medicine than the average for all 4IR patents.

Figure 30. Top scientific articles listed in patent documents, 2017–2021



Additional citation-based indicators, such as the originality and radicalness indices, help proxy the technological value of patents. The originality index captures the breadth of technology fields a patent draws on. The higher the index, the more a patent differs from its prior art, and the more original it can be considered. As shown in Figure 31, Canadian resident firms tend to develop patents that are more original than the world average, notably in 4IR and ICT. The radicalness index presented in Figure 32 works similarly, measuring the extent to which a patent overlaps with the patents it cites. A higher value signals a sharper break from prior inventions. In Canada, 4IR inventions appear more radical than ICT and all other fields, and tend to be more radical than the world average.

Figure 31. Originality index for selected countries, 2017–2021

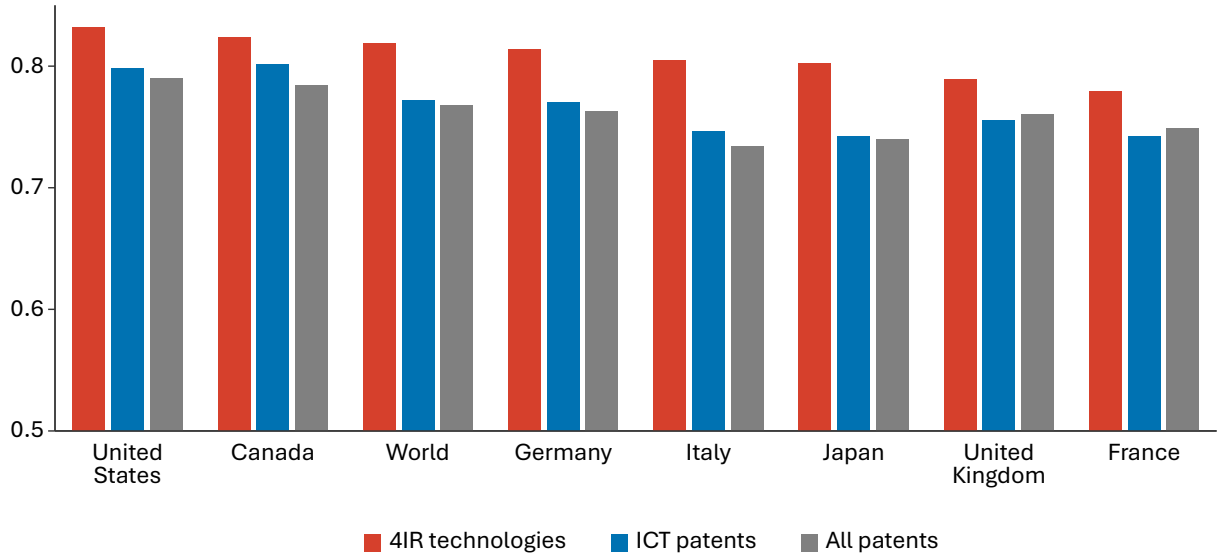
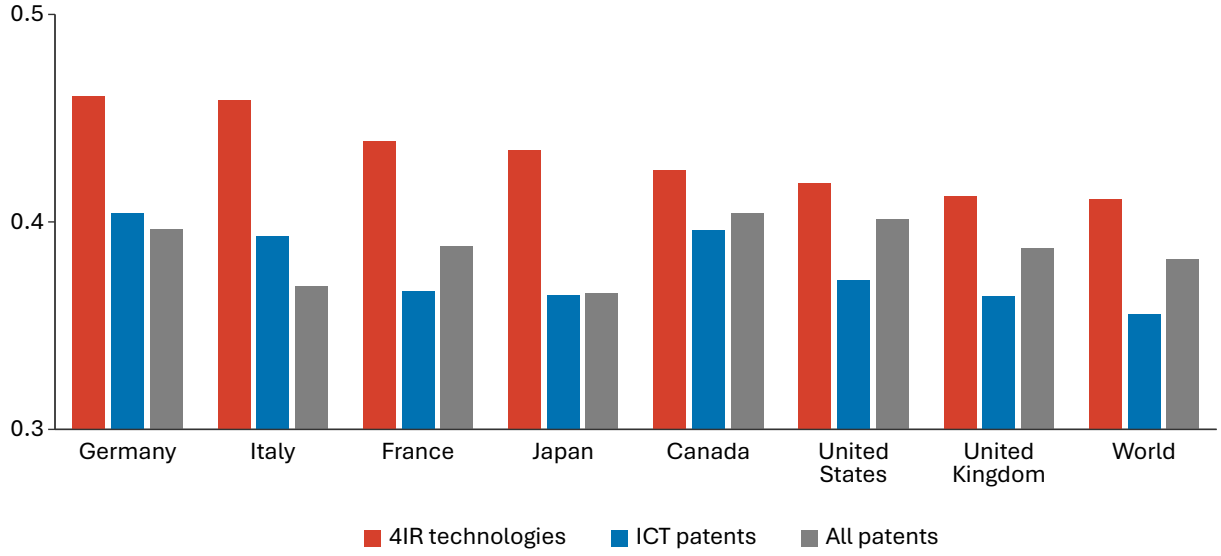
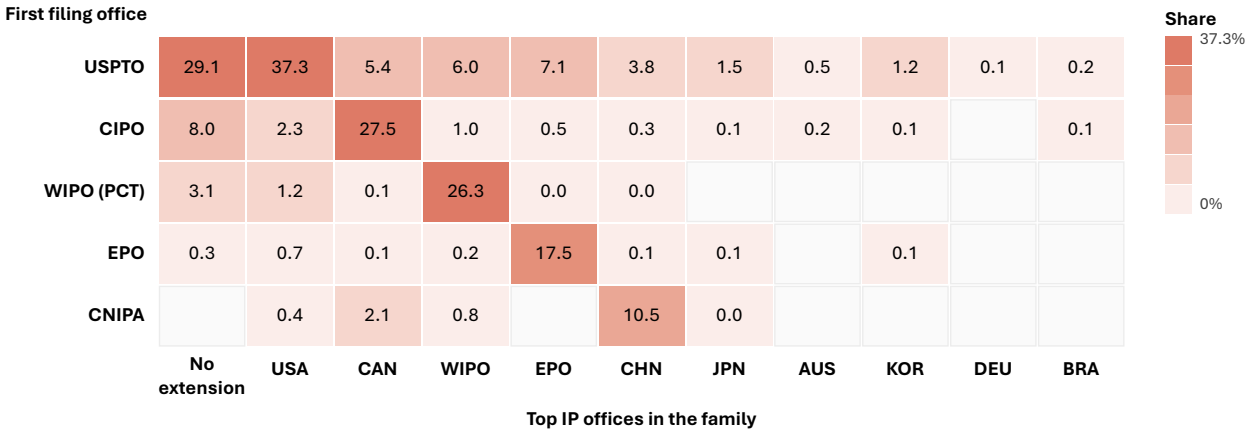


Figure 32. Radicalness index for selected countries, 2017–2021



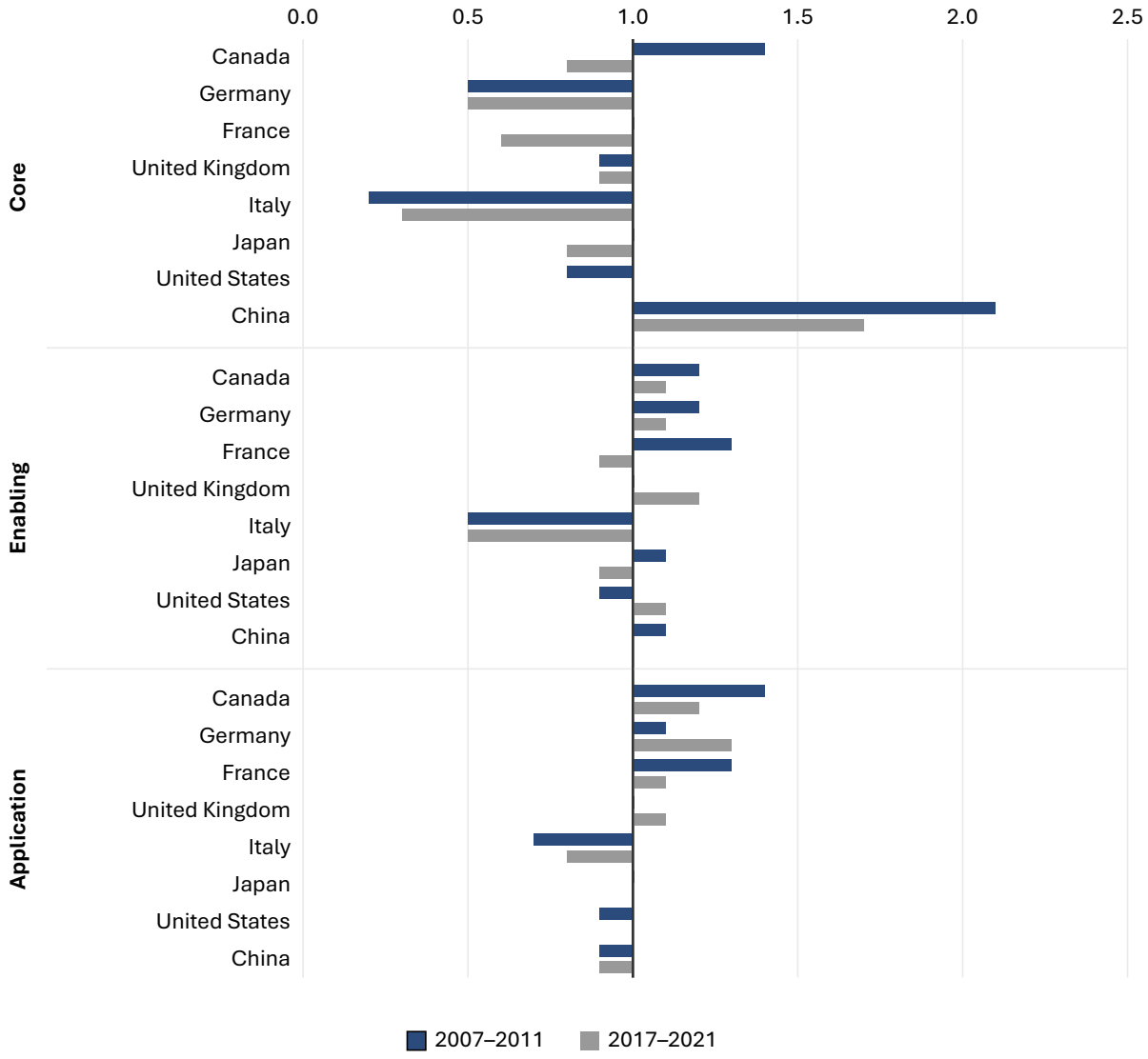
The composition of patent families reveals the strategies Canadian applicants use to protect their 4IR inventions. Figure 33 displays, on the y-axis, the IP office at which the patent was first filed, and on the x-axis, the IP offices where the invention was protected afterwards. In 2017–2021, over 37% of 4IR patents by Canadian residents were first filed in the United States, with inventions later protected in other jurisdictions. Notably, 29% were solely protected in the United States. In comparison, 28% of patent families were first filed in Canada and then extended to another market, while 8% were solely protected in Canada.

Figure 33. Share of patent families filed by Canadians, by first filing and extension offices, 2017–2021



The revealed technological advantage (RTA) index captures a country's relative specialization in a given technology.[19] Values above one indicate a relative advantage, while values below one indicate a relative disadvantage. Figure 34 reveals that Canada's specialization in 4IR declined across all three 4IR technology domains between 2007–2011 and 2017–2021, particularly in core technologies. Canada retains a slight advantage in application domains and enabling technologies, with its strongest areas of specializations in agriculture, 3D systems and healthcare.

Figure 34. RTA by selected countries and technology group, 2007–2011 and 2017–2021



19 The RTA index is calculated as the share of 4IR technologies in a given country's patent portfolio divided by the share of 4IR technologies in total patents.

Economic performance of firms innovating in 4IR

The OECD report also examines the relationships between new patents (both 4IR and non-4IR) and economic outcomes, and whether different types of 4IR patents are associated with different patterns of economic performance.

Results from the econometric analysis carried out by the OECD suggest that both 4IR and non-4IR patenting are positively associated with economic outcomes in Canada. Specifically, a doubling of the number of 4IR patents is associated with a 0.9% increase in multi-factor productivity,[20] a 1.4% increase in employment, and a 1.7% increase in value added. This suggests that Canadian firms expand when they develop more 4IR patents. In addition, the report examines the relationships between changes in firm performance and the development of different types of 4IR patents, namely core, enabling, or application. When productivity is assessed, the study reveals that the link with the development of 4IR patents in Canada is driven by core 4IR patents. If employment is analyzed on the basis of economic outcome, then core and application 4IR patents are drivers of an increased firm size.

Conclusion

This section focuses on the innovation performance of Canadian firms patenting in 4IR technologies and the relationship between patenting activity in 4IR and firm outcomes. While Canadian firms have made notable progress in core technologies and application domains, and continue to produce highly complex, original, and radical innovations, Canada is lagging behind global trends. Specifically, Canada's specialization in 4IR has declined across all three technology domains. In addition, the predominant strategy used by Canadian applicants to protect these inventions is to file first at the USPTO, possibly limiting the extent to which Canada fully captures the benefits of its firms' 4IR inventions. Econometric analysis reveals that increases in 4IR patenting in Canada are associated with positive economic outcomes at the firm level. The empirical findings suggest that the productivity gains promised by the 4IR may have started to materialize for some Canadian firms, offering early evidence that Canada's 4IR innovators are turning inventions into economic value.

20 Multifactor productivity measures how efficiently a firm turns multiple inputs (typically labour and capital) into output. In other words, it captures the portion of output growth that cannot be explained just by using more workers or more machines. Instead, it reflects improvements in things like technology, organization, skills, management practices, and innovation.



Conclusion

The IP Canada Report 2026 presents the latest trends in IP activity in Canada and abroad by Canadians, reflecting a year of renewed growth and momentum. In 2025, filing activity in Canada rebounded strongly across several types of IP rights, signalling a recovery following recent fluctuations. Trademark applications increased markedly, driven by robust growth in resident filings and supported by continued international demand. Industrial designs reached a new peak, with sustained expansion in both resident and non-resident activity. Patent applications returned to positive growth, supported by a sharp increase in resident filings, while plant breeders' rights activity showed signs of recovery following the decline observed in the previous year. Taken together, these developments point to strengthened engagement with the Canadian IP system and a renewed dynamism in domestic activity.

Internationally, Canadian applicants also showed increased filing activity in 2024. Patent filings abroad remained stable, while trademark activity recovered and industrial design filings expanded significantly, reaching their highest level to date. Canadian firms maintained a strong presence in major jurisdictions, including the United States, China and key European markets, while continuing to rely on international filing systems such as the PCT to facilitate access to IP protection in foreign markets. These patterns underscore the importance of IP as a tool for supporting international expansion and competitiveness.

Beyond these trends, the Report provides insights into two key areas of IP research. The analysis of Canada's first five years as a member of the Madrid Protocol highlights a rapid and sustained integration into the international trademark system, with Canada emerging as one of the leading global destinations for Madrid designations and exhibiting a high level of reliance on this filing route among non-resident applicants. The summary of the OECD study on patenting in 4IR technologies highlights the increasing importance of these technologies as drivers of economic performance. The findings underscore that patenting in 4IR technologies is associated with stronger productivity outcomes for firms operating in Canada, providing early evidence that gains from frontier innovation can be translated into measurable economic value.

As in previous years, the findings of this report highlight the resilience and adaptability of IP users in an evolving global environment. The strong recovery observed in 2025 reflects renewed confidence and continued investment in IP by innovators and businesses. Ensuring that Canadian firms can effectively leverage IP, both domestically and internationally, will remain essential to supporting innovation, productivity and long-term economic growth in an increasingly knowledge-based economy.

Appendix A

CIPO administers IP rights in Canada, including patents, trademarks, industrial designs, copyright, geographical indications, official marks, and integrated circuit topographies. This report focuses on the first three of these IP rights. Each type of IP protection is designed for different circumstances. The fees applied by CIPO change yearly and can be found in the updated list of fees and payment forms on its website.

Patents

Patents provide a time-limited, legally protected, exclusive right to make, use, and sell an invention. In this way, patents serve as a reward for ingenuity. Patents apply to newly developed technology, as well as to improvements on products or processes.

Patent protection is valid in the country or region that issues the patent. In Canada, a patent is valid for 20 years from the date that it is filed. Patents can have a great deal of value. They can be sold, licensed, or used as assets to attract funding from investors.[21]

In exchange for these benefits, a full description of the invention must be provided when filing a patent application. This helps enrich technical knowledge worldwide. Details of patent applications filed in Canada are disclosed to the public after an 18-month period of confidentiality.

To be eligible for patent protection, an invention must be new (first in the world), useful (functional and operative), and inventive (showing ingenuity and not obvious to someone of average skill who works in the field of the invention). The invention can be a product (e.g., a door lock); a composition (e.g., a chemical composition used in lubricants for door locks); a machine (e.g., for making door locks); a process (e.g., a method for making door locks); or an improvement on any of these.

In Canada, the first applicant to file a patent application is entitled to obtain the patent. The patent should be filed as soon as possible after an invention is completed in case someone else is on a similar track.

Any public disclosure of an invention before filing may make it impossible to obtain a patent. There is an exception in Canada and the United States if the public disclosure was made by the inventor or by someone who learned of the invention from the inventor less than one year before filing the patent application.

The PCT system provides inventors with a streamlined process to seek protection in multiple countries by filing a single international application. It helps simplify the initial stages of the patenting process and provides inventors with an international search and non-binding opinion on the patentability of an invention, before entering national or regional phases.

21 CIPO, Patents

Trademarks

Trademarks can consist of words, designs, tastes, textures, moving images, modes of packaging, holograms, sounds, scents, three-dimensional shapes, colours, or a combination of these, used to distinguish the goods or services of one person or organization from those of others. Over time, trademarks stand for not only the actual goods or services a person or company offers, but also the reputation of the producer. Trademarks are a very valuable form of IP.[22]

A certification mark, a type of trademark, can be licensed to many people or companies for the purpose of showing that certain goods or services meet a defined standard. For example, the Woolmark design, owned by Woolmark Americas Ltd., is used on clothing and other goods.

For more information, consult CIPO's web page on international trademarks under the Madrid Protocol.

Industrial designs

An industrial design is about how something looks. It protects the visual features of shape, configuration, pattern, or ornament, and any combination of these features applied to a finished article. In other words, it protects the appearance of an article. For example, industrial designs can be found in many everyday products, such as the unique contour of a car hood, the graphical user interface on a phone, or the specific shape or pattern of your favourite shoes. If you want to register an industrial design, it has to be novel. Registration will provide you with an exclusive right to your design for up to 15 years.

You may file for registration through CIPO or through the Hague system. An application filed through CIPO may protect your design only in Canada. An application filed through the Hague system may protect your design in multiple countries, including in Canada. For more information on how to apply for registration, please consult the Industrial designs guide.

22 CIPO, Trademarks guide

Appendix B

Interpreting patent data

Patent data is a good starting point for analyzing the development of new technologies as it provides important information on the specific innovation in the invention, and who are the leading inventors and applicants. Like any data source, patent data has its strengths and weaknesses. If used in the wrong way, it can lead to erroneous conclusions and poor policy. The following provides context on the use of patents in understanding innovation.

While patents measure the flow of new ideas, it has been argued that patents may not measure innovation for three important reasons: patents do not include non-patented innovations, not all patents result in commercialization, and many patents are strategic in nature.[23] For this reason, the analysis is based on patent families that include applications in at least two jurisdictions. This makes it more likely for these patent families to be a higher-valued invention and that the firm will commercialize the invention.

Another challenge presented is that many innovations or inventions remain hidden as trade secrets. These innovations will be missed in a measure that includes only patents. However, a 2008 study indicates that world-first innovators patent more frequently. Conversely, firms that patent infrequently tend to be imitators.[24] In addition, the study finds that firms that protect their IP are more likely to increase their profits than those that do not. Moreover, SMEs that patent are more likely to be high-growth firms, which is important for success.[25] These conclusions are reinforced by a Canadian study where it was noted that firms that are aggressive innovators, ones that introduce radically new products involving patent protection, have higher profits.[26] Finally, while some inventions are not patented, patents are obtained for almost all economically significant inventions.[27]

Below are the primary ways to view or interpret patent data:

23 Kleinknecht, Alfred; van Montfort, Kees; and Brouwer, Erik (2002), "The Non-Trivial Choice between Innovation Indicators", *Economics of Innovation and New Technology*, 11(2), 109-121

24 Hanel, Petr (2008), "The Use of Intellectual Property Rights and Innovation by Manufacturing Firms in Canada", *Economics of Innovation and New Technology*, 17(4), 285-309

25 2014 Survey on Financing and Growth of Small and Medium Enterprises, ISED and Statistics Canada

26 Baldwin, John and Gellatly, Guy (2006), "Innovation Capabilities: The Knowledge Capital Behind the Survival and Growth of Firms", *The Canadian Economy in Transition* research paper series, Statistics Canada

27 Dernis, Hélène; Guellec, Dominique; and van Pottelsberghe, Bruno (2001), "Using patent counts for cross-country comparisons of technology output", *STI mimeo*, Organisation for Economic Co-operation and Development

Market reach

Patent filings in foreign markets are a good indicator of firms accessing those markets. Surveys have shown that firms that hold patents are more likely to be exporters.

Innovative activity

When we do not account for filings in multiple jurisdictions, we are double and triple counting the number of patented inventions or innovative activities. In order to address this, patent data allows for the formation of patent families whereby each family includes all related or similar patents in all jurisdictions.

Scientific strength

It is possible to identify the researchers or scientists, rather than the company or applicant. While these can be the same, they are often different. In this way, we can see the inventive activity of Canadian researchers working in other countries or for non-Canadian companies.

Relative advantage

Canada is a small open economy. For this reason, it is unlikely that our industries or innovators would have an absolute advantage in a particular area, be the most prolific IP users, or have the largest global market share. However, there are areas where we have a comparative or relative advantage. Much work has been done in the creation of metrics of relative technological advantage and relative specialization.