Patent Activity in Georgia: A Descriptive Analysis of Sakpatenti Data (2013–2023)

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Dr Antanina Garanasvili
London Metropolitan University

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Abstract

This article presents a descriptive analysis of patent application activity in Georgia between 2013 and 2023, based on data sourced from Sakpatenti, National Intellectual Property Center of Georgia. While significant studies exist for EU countries, the UK, and the US, Georgia remains under-researched in the field of intellectual property (IP) statistics. This study explores temporal trends in patent filings and registrations, distribution across IPC classes, and compares national activity with global leaders. The results highlight Georgia's evolving innovation landscape and its growing integration with European and international IP systems.

Keywords: Georgia, patents, patent applications, intellectual property, Sakpatenti, innovation

1. Introduction

Intellectual property (IP) plays a critical role in fostering innovation, economic growth, and technological development. While there is an extensive body of research examining IP trends in the European Union, the United Kingdom, and the United States, Georgia remains relatively under-researched in this domain. National IP statistics for Georgia are not systematically published, creating a gap in understanding the country's innovation performance.

This study was conducted in collaboration with Sakpatenti, National Intellectual Property Center of Georgia, with the aim of elaborating a time-series analysis of Georgian IP applications and registrations between 2013 and 2023. The focus is on patent application data as the most structured and internationally comparable IP right. This descriptive analysis contributes to building a foundation for future research and policy development in Georgia's IP landscape.

Georgia is increasingly aligning its IP framework with European standards. The European Patent Office (EPO) signed a Validation Agreement with Georgia on October 31, 2019, which entered into force in January 2024[2]. This development allows foreign applicants to obtain patent protection in Georgia more easily, signaling a stronger integration into the European patent system. Additionally, Georgia has made rapid progress in the international recognition of its geographical indications, such as wine and dairy products, reflecting its strategic positioning between Europe and Asia.

2. Methodology

The study involves the collection and descriptive analysis of patent applications filed and registered in Georgia between 2013 and 2023. Data were gathered directly from Sakpatenti (the National Intellectual Property Center of Georgia). The focus was narrowed to patent applications due to availability and study capacity constraints. Where relevant, international data from UNESCO UIS and the National Statistics Office of Georgia were consulted to contextualize economic and R&D trends.

The analysis includes:

- Examination of the distribution of patent applications across IPC sections and classes.
- Country-level comparisons of patent application activity.
- Time-series analysis of patent application filings in Georgia and selected major countries.

[2] https://www.epo.org/en/news-events/news/validation-agreement-georgia-enters-force

The analysis is descriptive in nature and does not involve econometric estimation. The study serves as a pilot to identify data gaps and potential avenues for further research, including firm-level analysis and IP-intensive industry estimations.

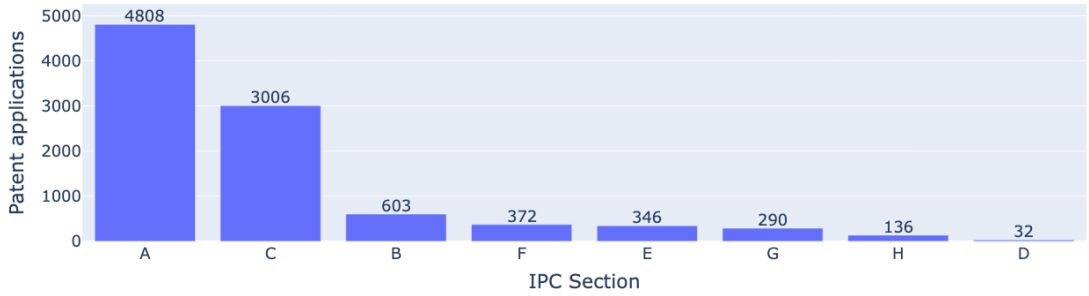
3. Results

3.1 Overview of IPC Classes in Sakpatenti

Figure 1 shows the total number of foreign **patent applications** filed in Georgia between 2013 and 2023, categorized by **IPC Section**. The data reveal a **clear concentration of patenting activity** in a small number of technological fields.

Section A (Human Necessities) overwhelmingly dominates with **4,808 applications**, reflecting strong interest in technologies related to human health, medical devices, agriculture, and hygiene. This aligns with global trends, where health-related technologies consistently attract the largest number of patent filings, driven by pharmaceuticals, biotechnology, and medical equipment industries.

Figure 1. Total foreign patent applications by IPC Section, 2013-2013



Source: author's graph based on Sakpatenti statistics (2013-2023)

Section C (Chemistry; Metallurgy) ranks second with **3,006 applications**, underscoring Georgia's role as a relevant jurisdiction for chemical, pharmaceutical, and material-related innovations. Together, Sections A and C account for the **vast majority of patenting activity**, indicating a **highly sector-specific foreign interest** in the Georgian market.

In contrast, the remaining sections show **much lower levels of activity**. Section B (Operations; Transporting) records 603 applications, followed by Section F (Mechanical Engineering) with 372, Section E (Fixed Constructions) with 346, and Section G (Physics) with 290. **Section H (Electricity)** and **Section D (Textiles; Paper)** show the **lowest activity**, with only 136 and 32 applications, respectively.

This distribution suggests that Georgia is currently perceived by foreign applicants as a **strategic jurisdiction for human- and chemistry-related innovations**, whereas sectors such as textiles, electricity, and physics remain relatively underrepresented. This sectoral

concentration has important implications for national innovation policy and potential areas for diversification.

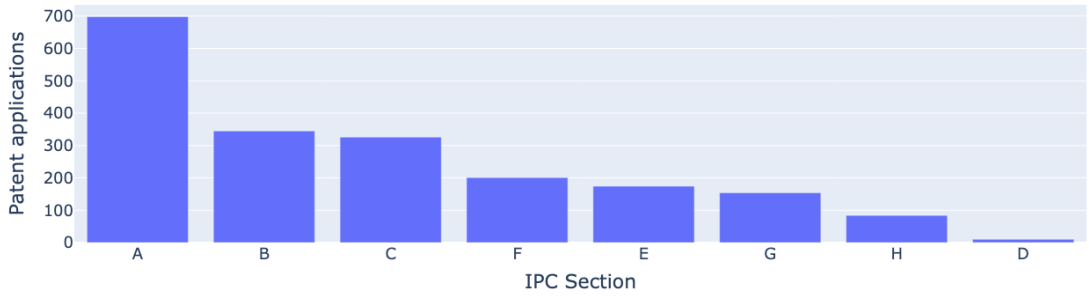
The dominance of patent filings in IPC Sections A (Human Necessities) and C (Chemistry; Metallurgy) in Georgia reflects a combination of **foreign filing strategies**, **sectoral specialisation**, and **institutional developments**. Most patents filed in Georgia originate from foreign applicants, particularly in pharmaceuticals and chemical technologies, which mirrors global innovation patterns and the strategic use of Georgia as a cost-effective jurisdiction for defensive patenting (WIPO, 2023; Sakpatenti, 2023). The country's relatively low domestic R&D intensity – approximately 0.3% of GDP – further explain why local patenting activity is concentrated in only a few technological fields (GeoStat, 2023; UNESCO UIS, 2023).

Georgia's recent legal harmonisation with the European patent system, especially the **EPO–Georgia Validation Agreement** that entered into force in 2023, has made it easier for European applicants to extend protection to Georgia, encouraging filings in strategic sectors (EPO, 2023). Meanwhile, the national emphasis on **Geographical Indications (GIs)**, particularly for wine, dairy, and agricultural products, channels some IP protection into GI systems rather than patents, contributing to the low filing volumes in areas such as textiles and mechanical engineering (Sakpatenti, 2023; WIPO, 2023). These factors help explain both the concentration of filings in Sections A and C and the relatively low overall diversification of Georgia's patenting landscape.

3.2 Patent Class Activity in Georgia

Figure 2 illustrates the distribution of **Georgian domestic patent applications** across IPC Sections between 2013 and 2023. The data reveal a **clear sectoral concentration**, with **Section A (Human Necessities)** leading by a substantial margin at **around 700 applications**. This dominant position reflects Georgia's emphasis on technologies related to **health, agriculture, and basic needs**, areas that align closely with the country's **economic structure** and **industrial priorities**.

Figure 2. Georgian domestic patent applications by IPC Section, 2013-2023



Source: author's graph based on Sakpatenti statistics (2013-2023)

Sections **B (Operations; Transporting)** and **C (Chemistry; Metallurgy)** follow with **just over 300 applications each**, indicating a **moderate but balanced level of activity** in these

technological fields. Both sections are traditionally important in patenting systems globally: Section B often relates to machinery and transportation technologies, while Section C reflects chemical and pharmaceutical innovation.

Sections **F (Mechanical Engineering)**, **E (Fixed Constructions)**, and **G (Physics)** each record **between 150 and 200 applications**, pointing to **steady but lower levels of inventive activity** in these areas. This reflects the relatively smaller industrial base in advanced manufacturing and engineering sectors in Georgia compared to larger innovation economies.

At the other end of the spectrum, **Section H (Electricity)** and **Section D (Textiles; Paper)** exhibit **minimal activity**, with Electricity section recording fewer than 100 applications and Textiles and Paper section shows nearly negligible levels. This low level of patenting corresponds to **limited domestic capacity** in high-tech electrical engineering sectors, and a textile industry that relies more on traditional production methods than on patentable technological innovation.

Overall, the distribution underscores Georgia's **technological concentration** in human necessities and a **relatively narrow innovation base** across other fields, with only moderate diversification in areas such as operations, chemistry, and mechanical engineering.

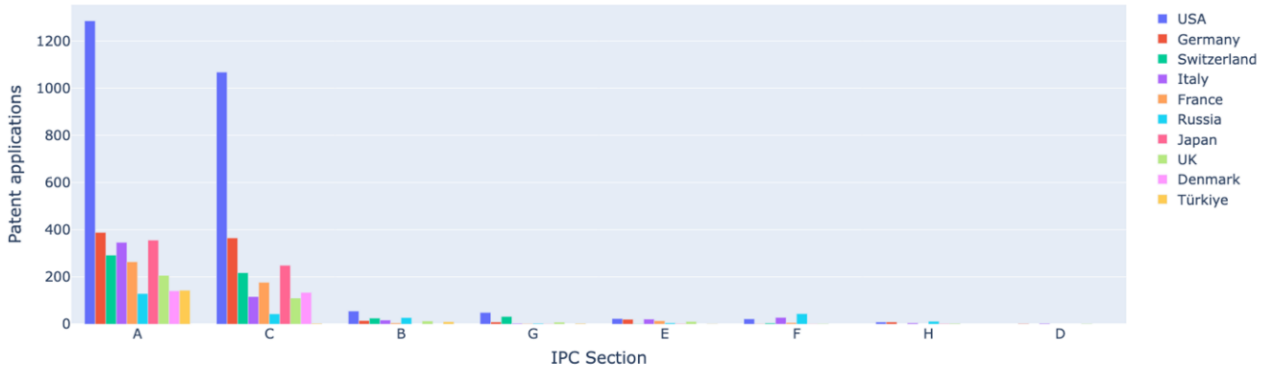
The sectoral distribution of Georgian patent filings largely reflects the country's **economic structure**, **industrial capacity**, and **stage of innovation system development**. The strong concentration in Section A (Human Necessities) aligns with Georgia's focus on **agriculture, food production, and healthcare technologies**, which are historically significant sectors with lower entry barriers for domestic inventors (GeoStat, 2023; UNESCO UIS, 2023). Moderate activity in Sections B (Operations; Transporting) and C (Chemistry; Metallurgy) are linked to the **expansion of logistics infrastructure** and the influence of **foreign patent applicants**, especially in pharmaceuticals and chemicals (WIPO, 2023; Sakpatenti, 2023). By contrast, the very low levels of patenting in Sections H (Electricity) and D (Textiles; Paper) highlight structural gaps: Georgia's **electronics and high-tech industries remain small**, and its **textile sector is oriented towards production rather than innovation**, with limited generation of patentable technologies (World Bank, 2020; European Commission, 2022). This distribution is consistent with Georgia's relatively low R&D intensity and transitional innovation ecosystem, in which inventive activity is concentrated in a few core sectors while high-tech manufacturing remains underdeveloped (GeoStat, 2023; UNESCO UIS, 2023).

3.3 Patent Trends Among Top 10 Countries

Figure 3 illustrates the distribution of total patent applications filed by the **top 10 countries** in Georgia between 2013 and 2023, categorized by **IPC Sections**. Top 10 application filing countries in Georgia are: US, Germany, Switzerland, Italy, France, Russian Federation, Japan, UK, Denmark, and Turkey.

The **United States** stands out as the **leader** in both Section A (*Human Necessities*) and Section C (*Chemistry; Metallurgy*), recording **over 1,200** and **1,000** patent applications, respectively. This dominance underscores the US strong innovation capacity in areas related to fundamental human needs – such as medical technologies, hygiene, and agriculture – as well as in advanced chemical and metallurgical processes. These fields traditionally account for a substantial share of global patenting activity and align with broader trends in pharmaceutical and chemical innovation.

Figure 3. Total patent applications filed by top 10 countries, by IPC Section, 2013-2023



Source: author's graph based on Sakpatenti statistics (2013-2023)

A second tier of leading countries – including **Germany, Italy, Japan, Switzerland, and France** – exhibits **consistent but lower levels of activity** in both Sections A and C. While none of these countries approaches the US figures, their filing patterns indicate a **sustained focus on core technological domains** that are globally competitive. This suggests established industrial capabilities in these sectors, combined with steady engagement in the Georgian patent system.

Turkey, in contrast, displays a **concentrated filing strategy**, with the majority of its patent applications filed in **Section A** and **very limited activity** across other sections. This pattern shows national industrial priorities – particularly in sectors such as agriculture, food processing, and health technologies – rather than a broad-based technological strategy.

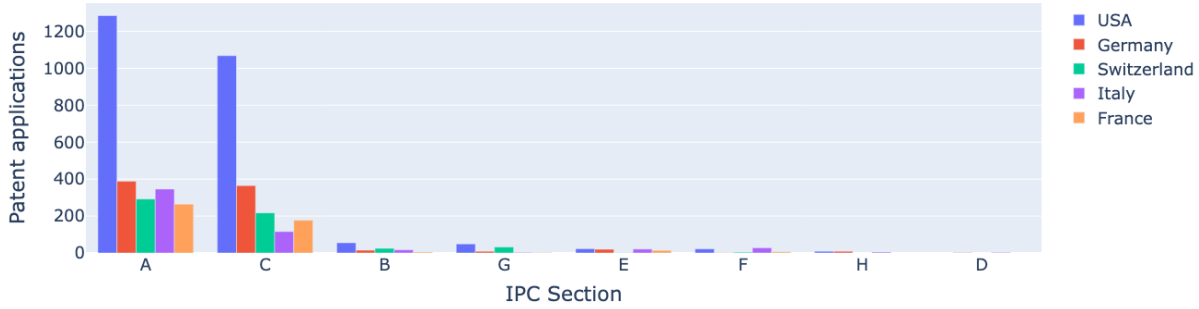
Other IPC sections (B, E, F, G, H, D) receive **minimal attention across all countries**, indicating that foreign applicants' interest in Georgia remains highly **sector-specific**, focused primarily on human necessities and chemical-related technologies. This concentration highlights the importance of these technological areas within Georgia's innovation ecosystem and suggests potential **strategic niches** for future development.

3.4 Top 5 Countries' Patent Trends

Figure 4 displays the distribution of patent applications across IPC Sections for the **top five foreign countries** filing in Georgia between 2013 and 2023: US, Germany, Switzerland, Italy, and France. The data reveal clear differences in technological focus and filing strategies among these major applicants.

The **United States** is by far the most dominant filer in both **Section A (Human Necessities)** and **Section C (Chemistry; Metallurgy)**, with well over **1,200** and **1,000** applications respectively. This reflects the global innovation strengths of the US in pharmaceuticals, medical technologies, and chemical industries, and its strategy of broad territorial patent protection in these fields.

Figure 4. Total patent applications filed by top 5 countries, by IPC Section, 2013-2023



Source: author's graph based on Sakpatenti statistics (2013-2023)

Germany shows a **more balanced distribution** of filings across Sections A and C, with consistently high numbers in both. This pattern reflects Germany's **diverse industrial base** – strong in pharmaceuticals and chemicals but also in engineering-intensive sectors that align with both Sections B and C.

Italy ranks relatively high in Section A but registers **significantly fewer applications in Section C**, suggesting a **targeted focus on basic human needs technologies**, which indicates Italy's industrial specialisation in sectors such as food, medical devices, and consumer goods rather than chemicals.

Switzerland and **France** both show **moderate but consistent levels of activity** across Sections A and C, mirroring their global innovation strengths in pharmaceuticals and related fields, albeit at a smaller scale compared to the US and Germany.

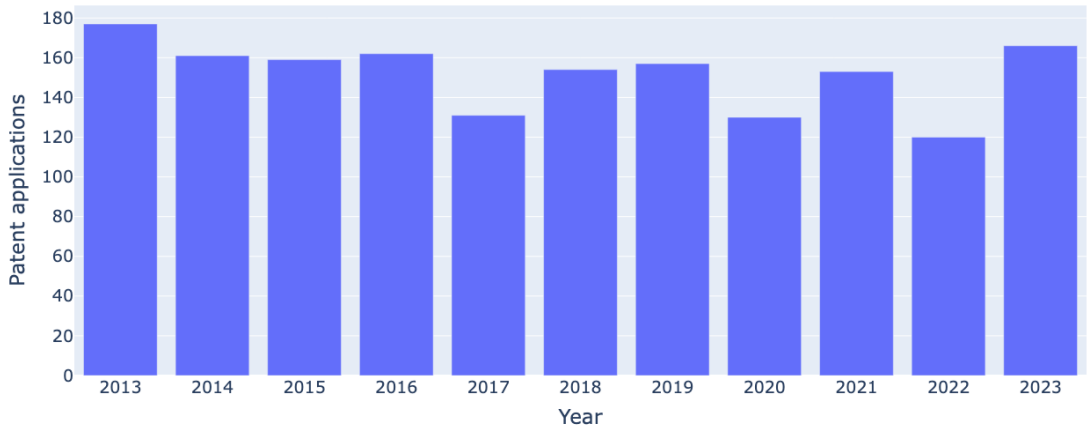
The distribution of filings across IPC Sections for the top five foreign filers highlights how **national industrial specialisation and global patenting strategies** shape foreign engagement with the Georgian IP system. US dominance in A and C is consistent with its global leadership in pharmaceuticals and chemicals (OECD, 2021; WIPO, 2023), and its tendency to pursue **wide territorial coverage** for high-value technologies. Germany's balanced profile reflects its **diversified industrial innovation base**, spanning pharmaceuticals, chemicals, and engineering (European Commission, 2022). Italy's concentration in Section A suggests **selective strategic filing**, focusing on areas aligned with its core industrial strengths, while France and Switzerland maintain **moderate but stable filing levels** in line with their size and sectoral strengths (WIPO, 2023; Sakpatenti, 2023). These variations indicate that **foreign patenting activity in Georgia is not uniform** but reflects broader technological specialisation patterns of each country.

3.5 Patent Applications in Georgia Over Time

Figure 5 presents the annual number of **patent applications filed by Georgian domestic applicants** between 2013 and 2023. The time series reveals a **clear peak in 2013**, when **178 applications** were filed, followed by a gradual decline over the subsequent years. Between **2014 and 2020**, filings remained relatively stable within the **120–160 range**, with noticeable troughs in **2017** and **2020**.

A sharper drop is observed in **2022**, when filings fell below 120 applications – the lowest level in the decade. However, this was followed by a **strong recovery in 2023**, with more than **165 applications** filed, nearly reaching the levels of the early 2010s. This recent rebound suggests renewed inventive activity and potentially reflects **improved institutional or economic conditions**.

Figure 5. Total annual patent applications by domestic applicants, 2013-2023



Source: author's graph based on Sakpatenti statistics (2013-2023)

The trajectory of Georgian patent filings over the past decade reflects both **structural characteristics of the national innovation system** and **short-term external factors**. The early peak in 2013 corresponds to **a backlog of applications following earlier institutional reforms**, combined with high initial filing activity after Georgia strengthened its IP framework (Sakpatenti, 2023). The subsequent period of stability at lower levels mirrors Georgia's **modest and relatively stable R&D investment**, which records around 0.3% of GDP (GeoStat, 2023; UNESCO UIS, 2023).

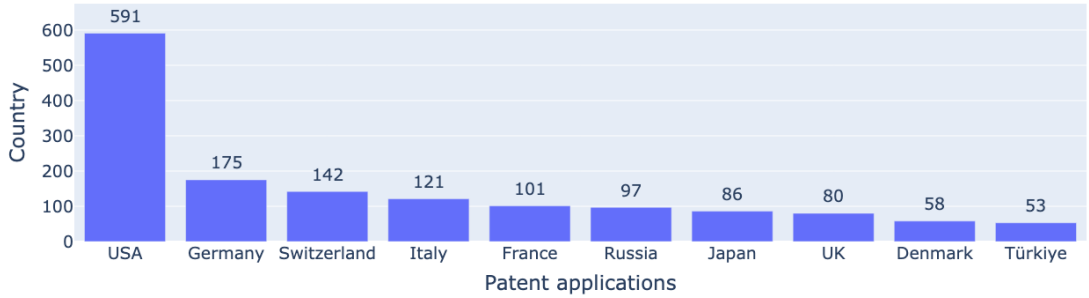
The decline in 2022 reflects **economic disruptions**, including post-pandemic effects, reduced private sector activity, and political uncertainty as well as uncertainty in regional markets. The recovery in 2023 is linked to **anticipation of the EPO–Georgia Validation Agreement's entry into force**, as well as a broader **renewed policy focus on innovation** and Georgia's growing integration with European IP systems (EPO, 2023; European Commission, 2022). Overall, the pattern suggests that **domestic inventive activity remains sensitive to policy and economic changes** but also has the capacity to rebound under more favourable conditions.

3.6 Global Patent Leaders (Excluding Georgia)

Figure 6 presents the total number of **patent applications filed by the top 10 foreign countries** in Georgia between 2013 and 2023. The **United States** leads by a considerable margin with **591 applications**, far ahead of the next largest filers. **Germany** follows with **175 applications**, while **Switzerland** (142) and **Italy** (121) also feature prominently. These figures underline the **significant role of European countries**, particularly Germany, Switzerland, and Italy, in foreign patenting activity in Georgia.

France (101) and **Russia** (97) occupy the middle range, followed by **Japan** (86), **the UK** (80), **Denmark** (58), and **Turkey** (53). The distribution indicates a **strong concentration of foreign patenting activity among a few technologically advanced economies**, with the US maintaining a clear lead.

Figure 6. Patent applications filed by Top 10 countries in Georgia, total for 2013-2023



Source: author's graph based on Sakpatenti statistics (2013-2023)

The prominent position of the **United States** reflects both its **global technological leadership** and the use of Georgia as part of **broad international patenting strategies**, particularly in pharmaceuticals and chemicals (WIPO, 2023; OECD, 2021). Germany, Switzerland, and Italy's significant shares align with their **strong industrial R&D bases** and increasing engagement with Georgia following its closer alignment with European IP frameworks (European Commission, 2022; EPO, 2023).

The lower figures for Denmark and Turkey reflect **smaller innovation ecosystems** and **different strategic priorities**, including less emphasis on patenting in smaller jurisdictions. Similarly, Japan and the UK maintain **moderate levels of engagement**, tied to sectoral strategies rather than broad territorial coverage. Overall, this distribution illustrates how **foreign patent activity in Georgia is shaped by global technological hierarchies and strategic market positioning**, rather than by random variation.

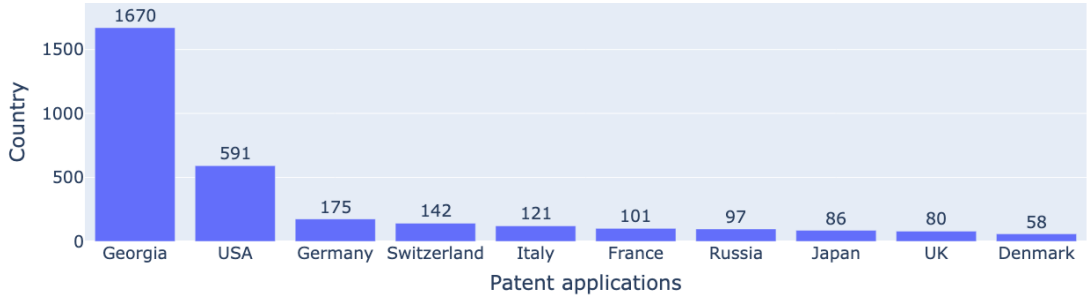
3.7 Top 10 Countries (Including Georgia)

Figure 7 compares total **patent applications filed by the top 10 countries**, including **Georgia**, between 2013 and 2023. Georgia leads by a substantial margin with **1,670 patent applications**, far exceeding all foreign countries. The **United States** ranks second with **591 applications**, followed by **Germany** (175), **Switzerland** (142), and **Italy** (121).

Georgia's dominant position is expected, as the dataset includes both domestic and foreign filings; as the **home jurisdiction**, Georgian applicants naturally account for the largest number of filings. The distribution among foreign countries mirrors global technological hierarchies, with advanced innovation economies filing the most.

Despite Georgia's **numerical dominance**, the **technological diversity** of filings tells a different story: the **US covers nearly double the number of IPC sections** compared to Georgia, despite filing only about 30% as many applications. This indicates that US filings are **spread across a broader range of technological fields**, reflecting a **diverse and mature innovation ecosystem**, whereas Georgian filings are more **sectorally concentrated**, as seen in earlier figures.

Figure 7. Patent applications filed by Top 10 countries in Georgia (including Georgia), total for 2013-2023



Source: author's graph based on Sakpatenti statistics (2013-2023)

The contrast between **volume** and **technological breadth** reflects the **structural differences** between Georgia's domestic innovation base and the global leaders. Georgia's high number of applications primarily reflects **domestic filings in a narrow set of IPC sections**, mainly Human Necessities and Chemistry (GeoStat, 2023; Sakpatenti, 2023), whereas the US's filings indicate **strategic coverage across multiple technological areas**, characteristic of advanced innovation economies (OECD, 2021; WIPO, 2023).

This pattern underscores Georgia's status as both the **main source of domestic filings** and an **emerging destination for strategic foreign patenting**, particularly from the US and major European countries. It also highlights the opportunity for **technological diversification** within Georgia's patenting activity as its innovation ecosystem develops.

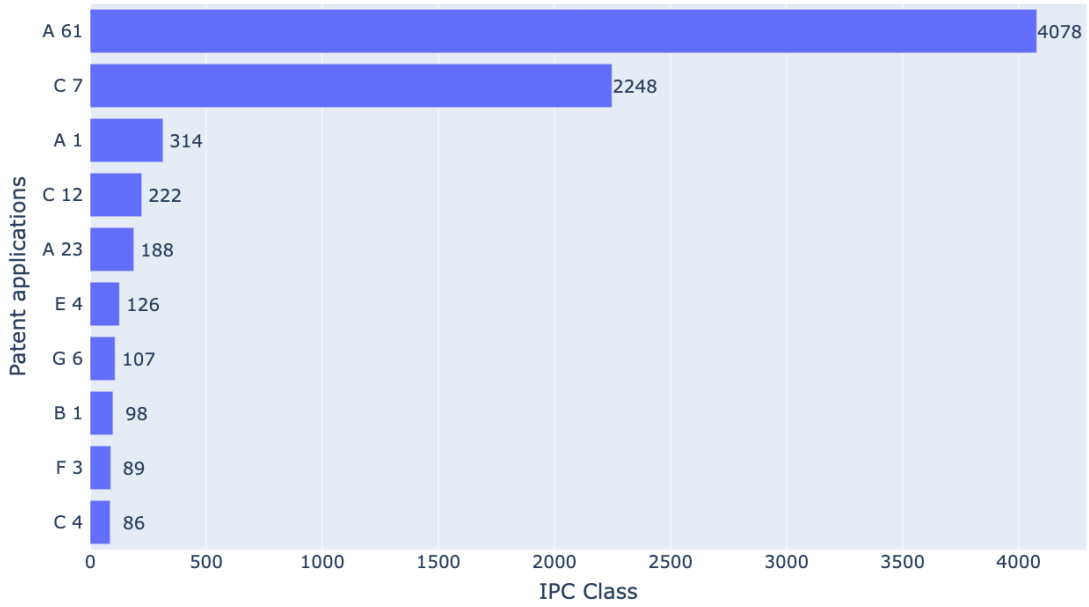
3.8 Leading IPC Classes

Figure 8 shows the **distribution of patent applications by IPC Class** in Georgia between 2013 and 2023. The data reveal a **highly concentrated technological profile**. **IPC Class A61 (Medical or Veterinary Science; Hygiene)** overwhelmingly dominates, with **4,078 applications**, accounting for the majority of all filings. This reflects the **global emphasis on health-related technologies**, including medical devices, pharmaceuticals, and hygiene-related innovations, which are areas of intense international patenting activity.

IPC Class C7 (Organic Chemistry) follows at a distance with **2,248 applications**, underscoring the continued importance of **chemical innovation**, especially in fields related to **pharmaceuticals, agriculture, and materials science**.

Other classes show significantly lower levels of activity. **A01 (Agriculture)** records **314 applications**, while **C12 (Biochemistry)** has **222 applications**. Classes such as **A23 (Food or Foodstuffs)**, **E04 (Fixed Constructions)**, **G06 (Physics; Computing)**, and several engineering and textile-related classes show even lower activity, each below 200 applications. This stark difference highlights the **dominance of health and chemical technologies** in Georgia's patent landscape over the past decade.

Figure 8. Total patent applications by IPC Class, 2013-2023



Source: author's graph based on Sakpatenti statistics (2013-2023)

The concentration of filings in **A61 and C7** mirrors **global technological priorities** in pharmaceuticals, biotechnology, and chemical industries (OECD, 2021; WIPO, 2023). It also reflects **strategic foreign patenting behaviour**: large multinational firms, particularly from the US and Europe, often target Georgia for **defensive filings in high-value sectors**, especially pharmaceuticals and health technologies (Sakpatenti, 2023; EPO, 2023).

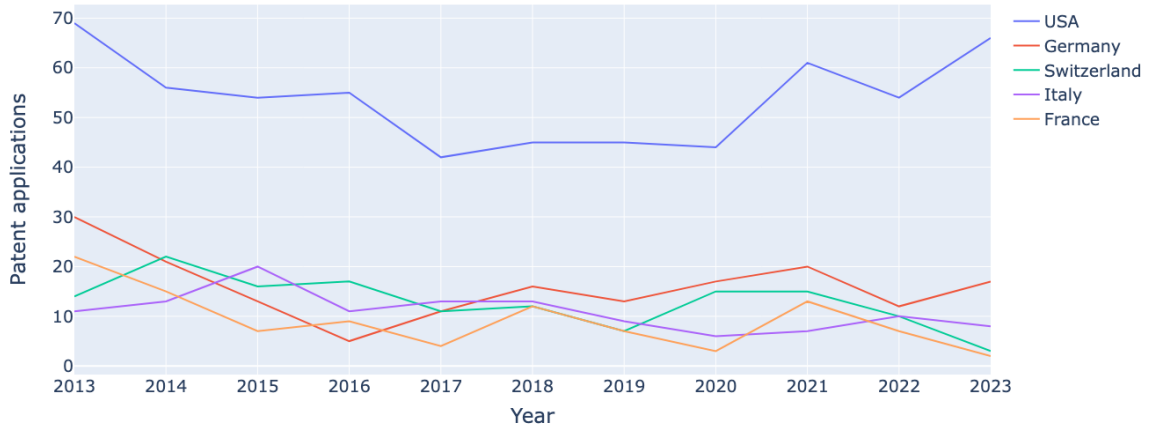
The relatively low activity in classes such as **A01 (Agriculture)** and **C12 (Biochemistry)**, despite Georgia's strong agricultural traditions, suggests that **Geographical Indications (GIs)** and **traditional knowledge systems** plays a more prominent role than patents in protecting agricultural innovations (WIPO, 2023). Similarly, the lower representation of engineering and computing classes aligns with the **limited size of Georgia's high-tech sectors** and its modest domestic R&D base (GeoStat, 2023; UNESCO UIS, 2023). These patterns underline a **dual structure** in Georgia's patent landscape: a **foreign-driven concentration in globally strategic technological classes**, and a **narrower domestic innovation base** focused on a few key fields.

3.9 Trends in Top 5 Countries (Per Year)

Figure 9 illustrates the evolution of patent applications filed by the US, Germany, Switzerland, Italy, and France between 2013 and 2023.

The **United States** exhibits the highest number of annual patent filings throughout the observed period. Starting at approximately 68 applications in 2013, filings declined steadily until reaching a low of just over 40 applications in 2017. US experienced a **gradual but consistent recovery**, culminating in around 67 applications by 2023. This U-shaped pattern suggests a temporary slowdown, reflecting broader global economic trends or changes in filing behaviour, followed by renewed innovation activity in the years following 2020 pandemic slowdown.

Figure 9. Patent applications filed annually by top 5 countries in Georgia, 2013-2023



Source: author's graph based on Sakpatenti statistics (2013-2023)

Germany follows a similar trajectory, though at a lower scale. German filings decreased sharply between 2013 and 2016, reaching their minimum in 2016. A noticeable increase occurs between 2019 and 2021, after which filings decline slightly again.

France consistently reports the lowest number of patent applications among the five countries across the entire period. Filings drop markedly to just five applications in 2020, which represents the most pronounced single-year fall in the dataset. This dip corresponds to disruptions associated with the COVID-19 pandemic.

Switzerland and **Italy** display similar trends, both starting with modest filing numbers that show a **general downward trajectory** over the decade. Both countries record **minor spikes around 2014–2015**, but overall, their activity levels gradually decline.

While the US remains a dominant filing economy, European countries – especially Switzerland, Italy, and France – exhibit more subdued and declining patterns of patent activity in Georgia. **Germany stands out as the most stable European patent filing economy in Georgia.**

The cross-country trajectories largely reflect differences in **industrial specialisation** and **patenting strategy**. The **US trend** is consistent with portfolio tightening in the mid-2010s followed by renewed filings as high-value pipelines in **pharma/medical and chemicals** came through – sectors in which US firms are structurally strong and tend to seek **broad territorial coverage** even in smaller markets (OECD, 2021; WIPO, 2023).

Germany demonstrates a **diversified industrial base** (chemicals/pharma and engineering) and steady engagement with Georgia as legal alignment with Europe progressed. The **EPO–Georgia Validation Agreement** – signed in 2019 and in force from January 2024 strengthened the incentive to include Georgia in European applicants' filing routes (EPO, 2023; European Commission, 2022).

Switzerland and **Italy** show marginal declines because their filings are **concentrated in a few strategic classes** (notably A61 and C07). As multinational pharma and specialty-chemicals firms periodically **prune international portfolios** or consolidate protection at regional level, filings in smaller jurisdictions often taper unless there is an immediate market or enforcement need (WIPO, 2023; Sakpatenti, 2023).

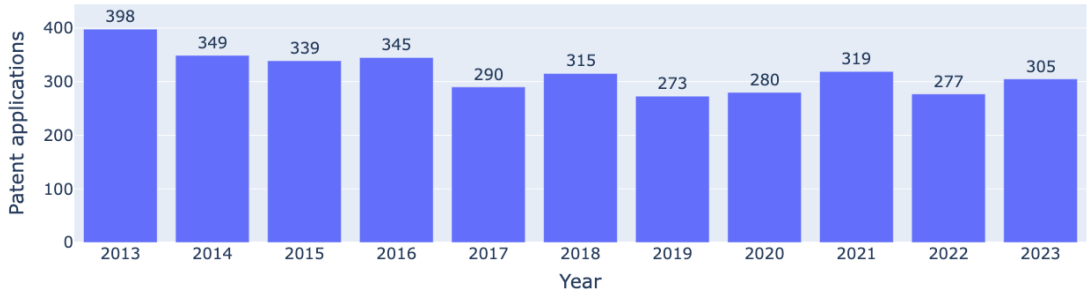
The **sharp single-year trough for France (2020)** is consistent with **pandemic-era operational disruption and IP budget reprioritisation**, particularly for applicants with narrower product pipelines in Georgia; it also illustrates how **small absolute volumes** can translate into pronounced year-to-year swings (European Commission, 2022; WIPO, 2023).

Overall, the data suggests that foreign patenting in Georgia is **strategic rather than routine**: countries with broad, R&D-intensive portfolios (the US, Germany) maintain or recover activity, while others file **selectively** in years when products or enforcement strategies make Georgian coverage valuable. This pattern is consistent with Georgia's **sector-concentrated patent landscape** and **transitional innovation system**, which together amplify the role of **foreign corporate strategy and legal alignment** in shaping annual filing volumes (GeoStat, 2023; UNESCO UIS, 2023; Sakpatenti, 2023).

3.10 General Yearly Trends

Figure 10 presents the annual number of patent applications filed in Georgia between 2013 and 2023. Patent filings have remained relatively stable, between **280 and 390 applications annually**. The peak was in **2013** with nearly **400 filings**, while the lowest point occurred in **2019**, with **273 applications**. A slight upward trend emerged in the years **2020-2022**, suggesting renewed innovation efforts and increased patenting activity.

Figure 10. Total patent applications in Georgia by year, 2013-2023



Source: author's graph based on Sakpatenti statistics (2013-2023)

After 2019, the number of patent applications demonstrate a **gradual upward trend**, rising from 273 applications in 2019 to 319 in 2021. This recovery suggests **renewed innovation activity**, potentially linked to policy changes, international agreements, or post-pandemic economic adjustments. However, the rebound remains **below the 2013 peak**, indicating that Georgian patenting activity has not yet returned to its earlier levels.

Overall, the time series reveals a **moderately stable but dynamic** patenting landscape, fluctuating between 273 and 398 applications annually. The pattern suggests both vulnerability to external shocks and potential responsiveness to policy and economic stimuli.

The observed trajectory reflects a combination of **structural and external factors** influencing Georgia's innovation system. The **peak in 2013** coincides with institutional changes in the IP system and an initial **surge in filings following administrative modernisation** at Sakpatenti (Sakpatenti, 2023). The **subsequent period of stability** corresponds to Georgia's **low but steady R&D investment levels**, averaging around **0.3% of GDP**, and the limited scale of its domestic high-tech sector (GeoStat, 2023; UNESCO UIS, 2023).

The **drop in 2019** reflects a combination of **economic slowdown** and **reduced foreign patenting activity**, while the gradual **recovery from 2020** corresponds to **increased international integration** (e.g., the EPO–Georgia Validation Agreement signed in 2019 and entering into force in 2024) and **post-pandemic recovery** in both domestic and foreign patent filings (EPO, 2023; European Commission, 2022). The pattern shows that **Georgia's patenting activity is sensitive to both national economic cycles and changes in international IP policy**, underlining the **interplay between domestic innovation capacity and global technological dynamics** (WIPO, 2023).

4. Discussion

The descriptive analysis of Georgian patent activity reveals several key patterns. They reflect both **domestic structural characteristics** and **international patenting strategies**.
First, the dominance of **IPC Sections A (Human Necessities)** and **C (Chemistry; Metallurgy)** highlights a strong concentration in **health-related and chemical technologies**, mirroring global technological priorities and the strategic behaviour of foreign applicants, particularly in pharmaceuticals and chemicals (OECD, 2021; WIPO, 2023).

Second, while Georgia records **relatively high total application volumes**, its **technological breadth is limited** compared to major innovation economies such as the US and Germany. This contrast reflects differences in **R&D intensity**, **industrial diversification**, and the **strategic use of Georgia as a jurisdiction for defensive or targeted filings** by foreign applicants (GeoStat, 2023; UNESCO UIS, 2023; Sakpatenti, 2023).

Third, the **temporal trends** indicate a period of decline followed by a **gradual recovery** from 2020 onwards. This pattern reflects a combination of **domestic economic cycles**, **post-pandemic effects**, and increasing **integration with European IP systems**, particularly through the **EPO–Georgia Validation Agreement** (EPO, 2023; European Commission, 2022).

Fourth, the **cross-country trends** (Figure 9) reveal how foreign filing activity in Georgia is **strategic rather than routine**. Countries with large, diversified patent portfolios (e.g., the US, Germany) tend to maintain or recover activity, while others (e.g., Italy, Switzerland, France) file more selectively and exhibit gradual declines. This suggests that **foreign engagement with the Georgian IP system is shaped more by global corporate strategies and sectoral priorities than by local innovation dynamics** (WIPO, 2023; OECD, 2021).

Finally, these findings have **forward-looking implications**. Georgia's **policy alignment with European IP structures** and its **geopolitical position between Europe and Asia** give it a growing strategic role. However, the concentration of domestic patenting in a few technological areas suggests the need for **broader sectoral diversification**, **increased R&D investment**, and **strengthened university–industry linkages** to support a more balanced innovation ecosystem (GeoStat, 2023; UNESCO UIS, 2023; World Bank, 2020). Strengthening these foundations could enable Georgia to **move from being primarily a recipient of foreign strategic filings to becoming a more active and diverse contributor** to regional innovation dynamics.

5. Conclusion

This study provides the first **comprehensive descriptive overview of patent activity in Georgia** based on Sakpatenti data for 2013–2023. It identifies both **areas of strength**, such as the concentration of activity in health-related and chemical technologies, and **structural gaps**, including limited technological diversification and modest domestic R&D intensity.

The analysis highlights how **Georgia's patent landscape is shaped by both domestic innovation capacity and foreign strategic filing behaviour**, particularly from major innovation economies such as the US and Germany. Temporal trends reveal a **period of decline followed by recovery**, reflecting the interaction between economic cycles, post-pandemic effects, and **policy developments**, including closer alignment with European IP systems.

Looking ahead, Georgia's **integration into the European patent framework** and its **geostrategic position between Europe and Asia** present opportunities to **expand its role within international innovation networks**. To fully capitalise on this potential, Georgia could focus on **broadening its technological base**, **strengthening R&D investment**, and **fostering stronger university–industry linkages**.

Future research should build on this descriptive foundation through **econometric analysis linking patenting activity to R&D expenditure and economic indicators**, as well as by **extending the dataset** to include trademarks, designs, and geographical indications. Incorporating **firm-level data** would allow for deeper insights into IP-intensive industries and innovation performance, supporting evidence-based policy aimed at **enhancing Georgia's innovation ecosystem**.

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