Global Innovation Index 2026

Ranking of World's Top 100 Innovation Clusters

WIPO

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GII 2026 ranking of world's top 100 innovation clusters

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Innovation clusters – whether they be innovation-driven cities or regions – are the beating heart of national innovation systems. Such hubs unite top universities, researchers, inventors, venture capitalists and research and development (R&D) firms in driving forward breakthrough ideas.

From Paris to Mexico City, Shenzhen to Stockholm, Seoul or San Francisco, global cities blend research, startups and R&D firms to power innovation.

Each year, the Global Innovation Index (GII) ranks the top 100 innovation clusters worldwide (Map 1). Employing a bottom-up, data-driven methodology that disregards administrative and political borders, the GII pinpoints those geographic areas that have a high density of inventors, scientific authors and/or venture capital (VC) activity. The clusters identified according to these criteria often span several municipal districts or sub-federal states, and sometimes even two or more countries.

Map 1 Top 100 innovation clusters worldwide, 2026

Source: WIPO Statistics Database, June 2026.

Three metrics are used to define the top 100 clusters globally (see Appendix IV for details and a comparison to earlier methods). The first focuses on the location of inventors listed in published patent applications under the WIPO Patent Cooperation Treaty (PCT).[1] The second considers the location of authors of published scientific articles. And the third – introduced to the 2025 edition – captures VC deal locations, which allows the GII to chart entrepreneurial activity and innovation finance globally, emphasizing startups and spinouts. Together, these three metrics reveal those areas where there is a high concentration of inventors, scientific authors and/or VC activity.

(Dedicated cluster briefs are available providing further details about every top 100 cluster.)

1 The WIPO Patent Cooperation Treaty (PCT) assists applicants in seeking patent protection for their inventions internationally, helps patent offices with making patent granting decisions, and facilitates public access to a wealth of technical information relating to these inventions. By filing one international patent application under the PCT System, applicants can simultaneously seek protection for an invention in a large number of countries (www.wipo.int/en/web/pct-system).

Top 10 clusters and other top-tier rankings

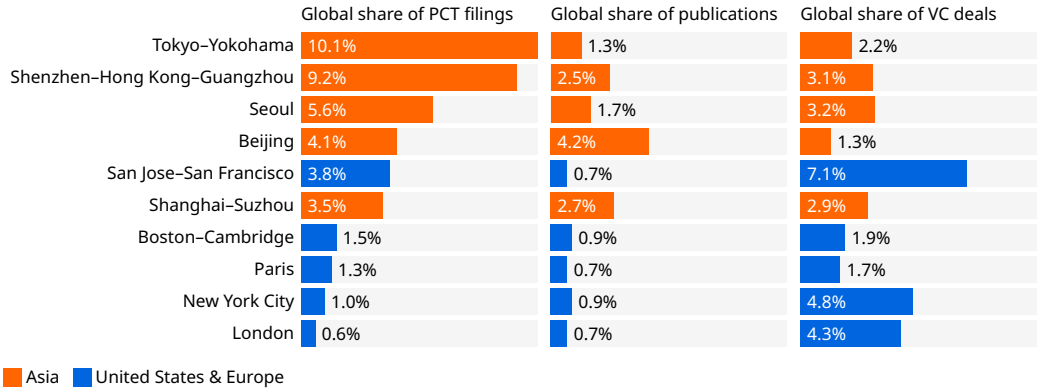
Shenzhen–Hong Kong–Guangzhou, Tokyo–Yokohama, and San Jose–San Francisco lead; Paris joins the top 10, Riyadh the top 100

Shenzhen–Hong Kong–Guangzhou (China and Hong Kong, China) tops the global rankings for a second consecutive year, followed by Tokyo–Yokohama (Japan) and San Jose–San Francisco in the United States of America (US) (see Figure 1). All three clusters continue to make a massive contribution to patenting outputs, together accounting for over one in every five PCT applications filed globally. Leading PCT applicants among the top clusters include Huawei (Shenzhen–Hong Kong–Guangzhou), Mitsubishi Electric (Tokyo–Yokohama) and Google (San Jose–San Francisco), with Sun Yat Sen University, the University of Tokyo and Stanford University the respective top publishing organizations.

Seoul in the Republic of Korea and Beijing in China follow in fourth and fifth places, respectively, with Seoul moving up one slot compared to 2025, outpacing Beijing in terms of PCT patent filings and VC deals, even as Beijing retains a commanding lead in scientific publications.

Among the top 10, Asian clusters lead in patents and publications – the US and European clusters in venture capital

Figure 1 Global share of publications, PCT filings, and venture capital deals for the top 10 innovation clusters, 2026



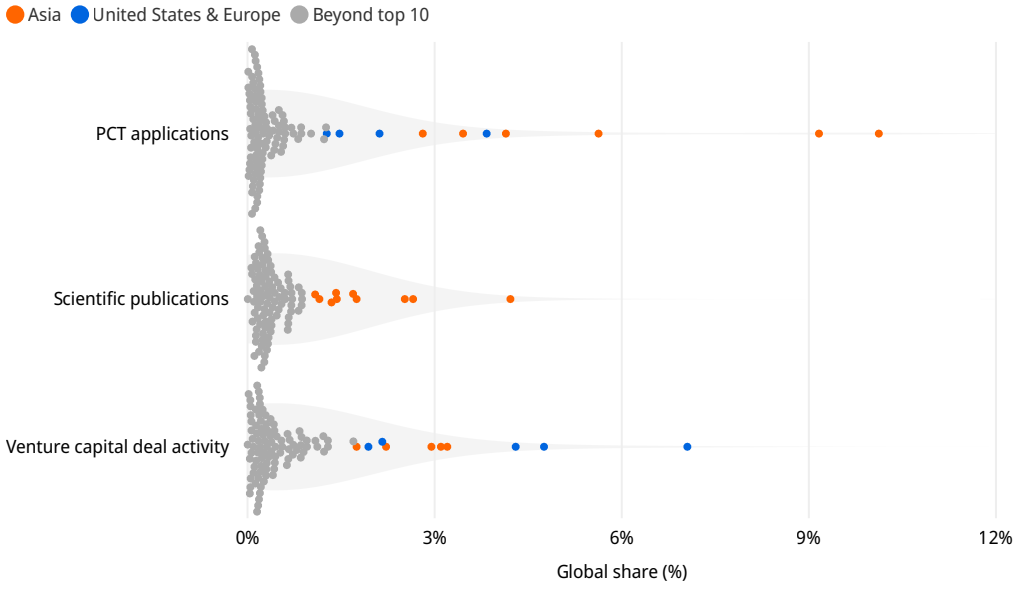
Source: WIPO Statistics Database, June 2026.

Paris (10th, France) is the most notable entrant to the top 10 since 2025, taking the spot vacated by Los Angeles (United States), which falls to 12th. This marks Paris's return to the top 10 for the first time since 2022, joining London (8th, United Kingdom) as the only two European clusters at this level. Shanghai–Suzhou (6th, China), New York City (7th) and Boston–Cambridge (9th, both United States) retain their positions in the ranking. Leading PCT applicants among these clusters include Suzhou University (Shanghai–Suzhou), IBM (New York City), Nicoventures Trading (London), Massachusetts Institute of Technology (MIT) (Boston–Cambridge) and Safran Aircraft Engines (Paris), while top publishing organizations include Shanghai Jiao Tong University, Columbia University, University College London, MIT, and Université Paris-Saclay, respectively. Box 1 examines the top 10 global clusters in respect to each of the three metric indicators, with Asian clusters leading in PCT filings and sweeping in scientific publications, and US and UK clusters showing a high concentration in VC.

Box 1 Top 10 innovation clusters by patents, publications or VC deals

Analyzing the top 10 innovation clusters by patents, publications or VC deals reveals distinct patterns and effects (see Box Figure 1.1). A notable example is Seoul's (Republic of Korea) strength in PCT patent filings and VC deals being outweighed by Beijing's (China) lead in scientific publications, causing them to swap positions this year to 4th and 5th in the ranking, respectively. Looking at global shares across the three metrics, distinct patterns emerge. First, PCT applications tell a mixed story: Asian clusters dominate, led by Tokyo–Yokohama, Shenzhen–Hong Kong–Guangzhou, and Seoul, alongside three US clusters that include San Jose–San Francisco and San Diego. Paris is the sole European representative. Second, clusters with the most publications remain all Asian, with the majority located in China – with Beijing and Shanghai–Suzhou leading – but with Seoul and Tokyo–Yokohama (Japan) also featuring. Third, in respect to VC deals, the United States claims the most clusters among the top 10, with San Jose–San Francisco and New York City leading, while London (United Kingdom) ranks third, with Seoul, Shenzhen–Hong Kong–Guangzhou, and Singapore also featuring. Beijing, by contrast, records a lower VC share among the top 10 clusters, reflecting the different pathways through which leading innovation economies channel R&D activity.

Box Figure 1.1 Top 10 clusters per metric highlighted against full distribution, 2026



Source: WIPO Statistics Database, June 2026.

Beyond the top 10, Philadelphia enters the top 20 in 2026 (20th), whereas Seattle drops out (25th), both in the United States. Within the top 30, Stockholm (30th, Sweden) enters, whereas Berlin (31st, Germany) drops out. The composition of the top 40 and top 50 remains unchanged compared to 2025. Within the top 100, Riyadh (92nd, Kingdom of Saudi Arabia) enters for the first time and Fuzhou (96th, China) re-enters, having narrowly fallen outside the top 100 in 2025, whereas Salt Lake City and Ann Arbor, both in the United States, drop out.

Biggest rank movements among the top 100

Within the top 100, the upper tier remains largely stable: the top three innovation clusters (Shenzhen–Hong Kong–Guangzhou, Tokyo–Yokohama, and San Jose–San Francisco) held position, and most clusters shifted by no more than a few places, with a few standing out for sharper swings. Table 1 below highlights some of the most pronounced rank movements that have occurred between GII 2025 and GII 2026 among selected clusters for each of the three metrics.

Ningde (China) recorded the largest rank increase within the top 100, climbing 24 places from 99th to 75th on the strength of growth across all three underlying metrics: PCT filings (+38.7 percent), publications (+24.7 percent) and VC (+50.0 percent). Miami (United States) rose seven places (67th to 60th) on consistently positive, if modest, growth across all three indicators, with VC growth (+12.4 percent) the strongest contributor. Chennai gained five places (84th to 79th), driven by strong PCT growth (+19.2 percent). Daejeon edged up three places (25th to 22nd), with broad growth across all three metrics, particularly in scientific publications (+15.4 percent) and PCT applications (+10.5 percent).

Table 1 Biggest rank movements among selected top 100 innovation clusters, 2026

Cluster name	Current rank	Rank change	PCT growth	Publication growth	VC growth
Ningde	75	24	38.7%	24.7%	50.0%
Miami	60	7	4.4%	1.2%	12.4%
Oxford	84	−7	2.8%	−1.4%	−9.4%
Istanbul	64	−6	−2.2%	6.3%	−35.5%
Chennai	79	5	19.2%	7.7%	9.1%
Lyon	95	−5	2.5%	−1.1%	−3.4%
Amsterdam–Rotterdam	26	−4	4.1%	−0.5%	2.6%
Copenhagen	46	−4	0.4%	−1.9%	−4.5%
Cologne	47	−4	−5.8%	−0.4%	3.1%
Oslo	89	−4	−5.3%	−1.0%	−2.4%
Daejeon	22	3	10.5%	15.4%	8.8%

Source: WIPO Statistics Database, June 2026.

On the downside, Oxford recorded one of the biggest declines, falling seven places (77th to 84th), driven mainly by a contraction in VC growth (−9.4 percent). Istanbul fell six places (58th to 64th) after a sharp contraction in VC growth (−35.5 percent), despite positive publication growth (+6.3 percent). A group of European clusters each slipped by four to five places (Amsterdam–Rotterdam, 22nd to 26th; Copenhagen, 42nd to 46th; Cologne, 43rd to 47th; Oslo, 85th to 89th; and Lyon, 90th to 95th), with a common observation that each recorded a negative publication growth rate, even when either PCT applications or VC deals remained positive, as was the case for Amsterdam–Rotterdam and Cologne.

Innovation clusters by economy

The top innovation cluster for each economy or cross-border region is shown in Table 2. The leading clusters per economy remain unchanged from last year. The one new addition is Saudi Arabia, which joins the table for the first time through Riyadh (92nd), having ranked just outside the top 100 in 2025.

Samsung Electronics stands out as the most prevalent top applicant within the rankings, leading PCT filings in four clusters across four economies: Seoul (4th, Republic of Korea), Bengaluru (24th, India), Moscow (50th, Russian Federation) and Warsaw (91st, Poland). Beyond the top applicant, the five most geographically dispersed applicants – BASF, Ericsson, Huawei, IBM, and Siemens –

register patent activity across at least 56 of the top 100 clusters, spanning up to 29 economies, with BASF, Ericsson, and IBM present across all six world United Nations (UN) regions (Figure 2).

Table 2 Top innovation clusters by economy or cross-border region ranked among the top 100, 2026

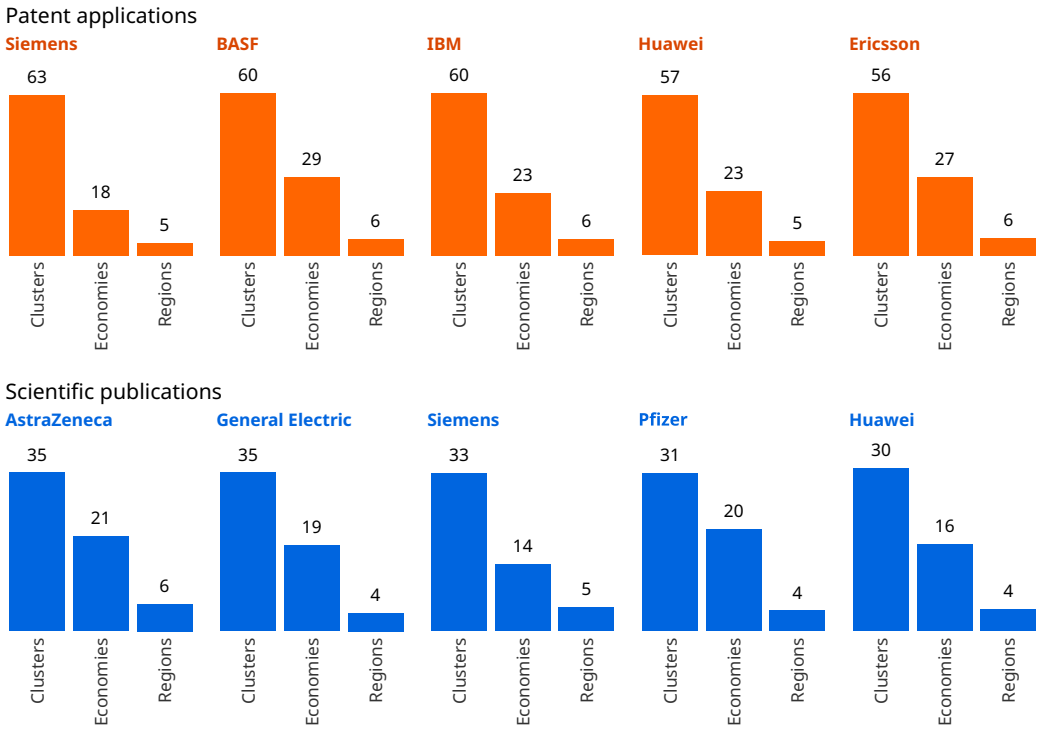
Rank	Cluster name	Economy	Top applicant	Top organization
1	Shenzhen–Hong Kong–Guangzhou	CN / HK	Huawei	Sun Yat Sen University
2	Tokyo–Yokohama	JP	Mitsubishi Electric	University of Tokyo
3	San Jose–San Francisco	US	Google	Stanford University
4	Seoul	KR	Samsung Electronics	Seoul National University
5	Beijing	CN	BOE Technology	Tsinghua University
8	London	GB	Nicoventures Trading	University College London
10	Paris	FR	Safran Aircraft Engines	Universite Paris Saclay
16	Singapore	SG / MY	National University of Singapore	National University of Singapore
19	Tel Aviv–Jerusalem	IL	Tel Aviv University	Tel Aviv University
24	Bengaluru	IN	Samsung Electronics	IISc - Bangalore
26	Amsterdam–Rotterdam	NL	Delft University of Technology	Delft University of Technology
28	Munich	DE	BMW	Technical University of Munich
30	Stockholm	SE	LM Ericsson	Karolinska Institutet
36	Toronto	CA	DH Technologies Development	University of Toronto
38	Sydney	AU	Cochlear	University of Sydney
40	Zürich	CH	ETH Zürich	ETH Zürich
42	Taipei–Hsinchu	TW*	MediaTek	National Taiwan University
44	Barcelona	ES	Hewlett-Packard	University of Barcelona
46	Copenhagen	DK	Danmarks Tekniske Universitet	University of Copenhagen
49	São Paulo	BR	Braskem	Universidade de Sao Paulo
50	Moscow	RU	Samsung Electronics	Lomonosov Moscow State University
56	Milan	IT	Pirelli Tyre	Polytechnic University of Milan
57	Brussels–Antwerp	BE	KU Leuven	KU Leuven
58	Helsinki	FI	Nokia	University of Helsinki
64	Istanbul	TR	Medipol University	Istanbul Technical University
65	Tehran	IR	Mohammad Abdolahad	University of Tehran
72	Dublin	IE	Eaton Intelligent Power	University College Dublin
76	Vienna	AT	JT International	Medical University of Vienna
82	Mexico City	MX	Colgate-Palmolive	UNAM
86	Cairo	EG	Si-Ware Systems	Cairo University
89	Oslo	NO	Oslo University Hospital	University of Oslo
90	Kuala Lumpur	MY	MIMOS Berhad	University Malaya
91	Warsaw	PL	Samsung Electronics	Warsaw University of Technology
92	Riyadh	SA	SABIC Global Technologies	King Saud University

Notes: Economy codes are based on WIPO Standard ST.3 two-letter codes for the representation of states, other entities and organizations. TW* refers to Taiwan Province of China. Economy labels were assigned to a cluster, when at least 1 percent of a cluster's output occurred in a given economy. Abbreviations are IISc = Indian Institute of Science, Bangalore; BOE Technology = Beijing Oriental Electronics Group; ETH Zürich = Eidgenössische Technische Hochschule Zürich; KU Leuven = Katholieke Universiteit Leuven; UNAM = Universidad Nacional Autónoma de México.

Source: WIPO Statistics Database, June 2026.

Global reach of leading patent applicants and publishing organizations across innovation clusters

Figure 2 Number of top 100 innovation clusters, economies and world regions where each organization registers patent or publication activity, 2026



Source: WIPO Statistics Database, June 2026.

Sun Yat Sen University is the only organization to lead scientific publications in more than one cluster, featuring as the top publishing institution in Shenzhen–Hong Kong–Guangzhou (1st, China, Hong Kong, China). Moving beyond the top organization, the five most geographically dispersed publishing organizations are: AstraZeneca, General Electric, Siemens, Pfizer, and Huawei, appearing in at least 30 of the top 100 clusters, spanning up to 21 economies, with AstraZeneca present across all six world UN regions.

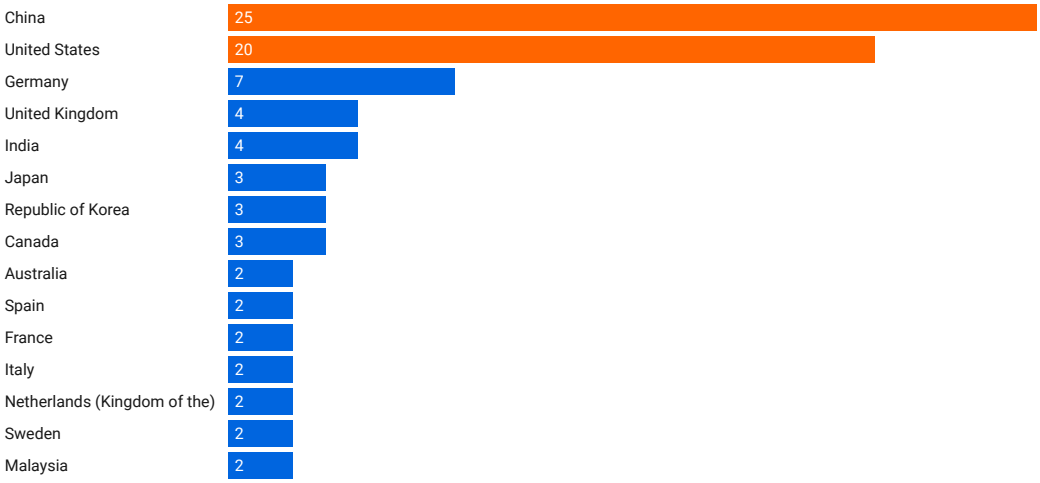
China and the United States lead in number of top innovation clusters

China and the United States lead the innovation cluster count for a fourth consecutive year (see Figure 3 and Map 2 a–e). China has 25 clusters (one more than last year); the United States follows with 20 clusters (two fewer than last year).

Germany holds seven clusters within the top 100 in 2026, the most of any European economy, though all but Stuttgart (54th, unchanged) slipped down the rankings. Munich, ranked 28th, dropped one place and is the highest-ranked of the seven, with BMW leading on patents and the Technical University of Munich on publications. Berlin (31st, −1) follows, with Cologne (47th, −4) and Frankfurt am Main (68th, −4) recording the sharpest drops. Stuttgart is anchored by Robert Bosch on patents and the University of Stuttgart on publications, while Frankfurt am Main is led by Merck Patent on patents and Johannes Gutenberg University of Mainz on publications. Heidelberg–Mannheim (88th, −1) and Hamburg (93rd, −2) round out Germany's top 100 presence.

China and the United States account for almost half of the world's top 100 innovation clusters

Figure 3 Economies with two or more top 100 innovation clusters, 2026



Source: WIPO Statistics Database, June 2026.

The United Kingdom (UK) retains four clusters among the top 100, with London (8th, unchanged) leading, though the other three all slipped: Cambridge (71st, −2), Oxford (84th, −7) and Manchester (97th, −3), with Oxford recording the sharpest drop among UK clusters this year, driven by a 9.4 percent decline in VC deal activity.

France has two clusters within the top 100, with Paris rising to 10th (+2), a position last held in the GII 2022 edition, whereas Lyon slips to 95th (−5), falling on a decline in VC deals (−3.4 percent) and scientific publications (−1.1 percent).

India maintains four clusters within the top 100, with Mumbai (43rd, +3) and Chennai (79th, +5) both climbing, while Bengaluru (24th, −3) and Delhi (27th, −1) slip slightly. Mumbai in particular consolidates its rise from 46th last year, surging 38 percent higher in PCT applications, while Chennai's five-place gain – driven by large gains in all three metrics – is the strongest upward movement among Indian clusters this year.

Japan retains three clusters among the top 100, with Tokyo–Yokohama (2nd) and Osaka–Kobe–Kyoto (11th) both holding steady, while Nagoya slips one place to 29th (−1).

The Republic of Korea likewise maintains three clusters, with Seoul (4th, +1) and Daejeon (22nd, +3) both gaining ground compared to 2025, whereas Busan (98th, −3) slips three places.

Canada retains three clusters within the top 100. Toronto, ranked 36th, remains the country's leading cluster, despite dropping three places, with declines across all three underlying metrics, most notably a 7.5 percent fall in VC deals. Montréal (61st, +1) rose slightly in the rankings, driven by a 6.8 percent growth in PCT applications, while Vancouver (67th, −1) remained broadly stable. Australia maintains two clusters within the top 100, with Sydney (38th, −2) and Melbourne (53rd, −1) both easing back slightly from 2025.

Spain's Barcelona (44th, +1) and Madrid (48th, −1) broadly hold their ground, as do Italy's Milan (56th, unchanged) and Rome (81st, +1).

The Kingdom of the Netherlands sees Amsterdam–Rotterdam slip four places to 26th, with Eindhoven (66th, −1) also edging down. Sweden presents a mixed picture, Stockholm climbing to 30th (+2), whereas Göteborg slips three places to 100th.

In addition to China and India, six other middle-income economies have clusters among the top 100. They are as follows:[2]

- Brazil (1 cluster), with São Paulo (49th, unchanged);
- Egypt (1), with Cairo (86th, –3), the sole top 100 innovation cluster within Africa;
- Islamic Republic of Iran (1), with Tehran (65th, –2);
- Malaysia (2), with Kuala Lumpur (90th, –4) and Singapore (16th, unchanged) – a cross-border cluster shared with Singapore;
- Mexico (1), with Mexico City (82nd, –3), the second cluster within Latin America; and
- Türkiye (1), with Istanbul at 64th (–6).

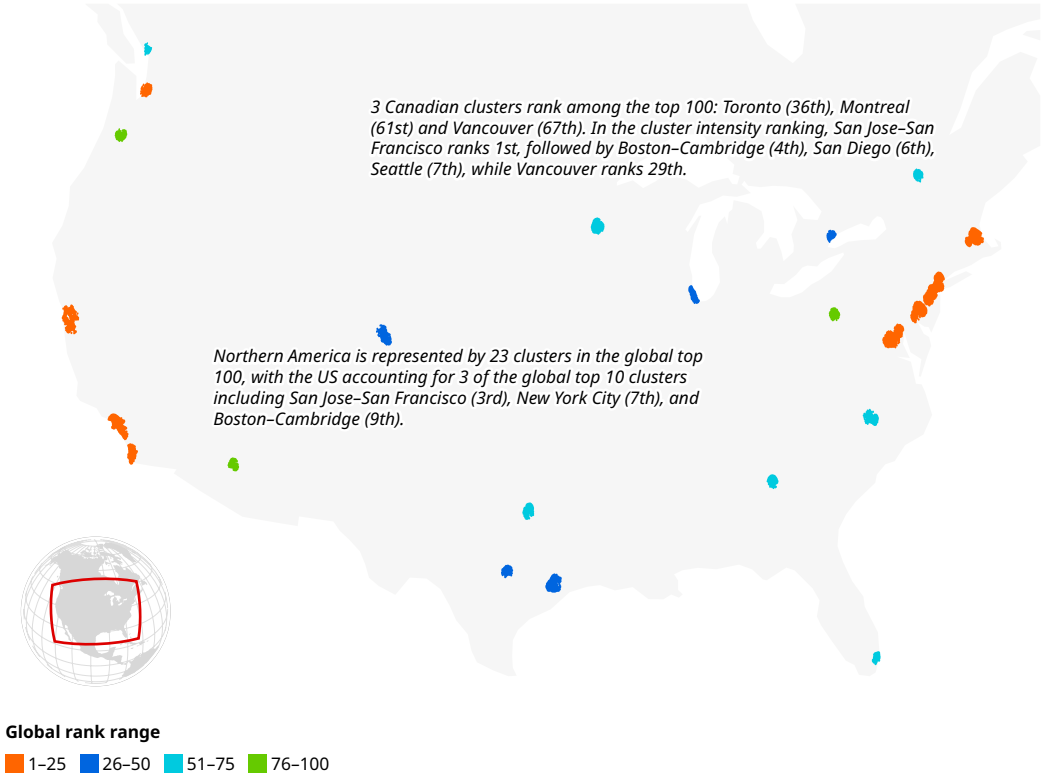
Even though Cairo is the sole African cluster within the top 100, there is innovation activity clustered elsewhere in Africa – see a separate analysis conducted in 2024.[3]

Regional distribution of innovation clusters

Regionally, the top 100 innovation clusters remain concentrated in three broad UN regions. South-eastern Asia, Eastern Asia and Oceania hosts the most clusters of any region (36), followed by Europe (30) and Northern America (23). Together these three broad regions account for 89 of the top 100 innovation clusters. The remaining 11 clusters are spread across Central and Southern Asia (5), Northern Africa and Western Asia (4) and Latin America and the Caribbean (2). Map 2 (a–e) traces the cluster footprint of selected region in greater detail.

Map 2 Top innovation clusters by region, 2026

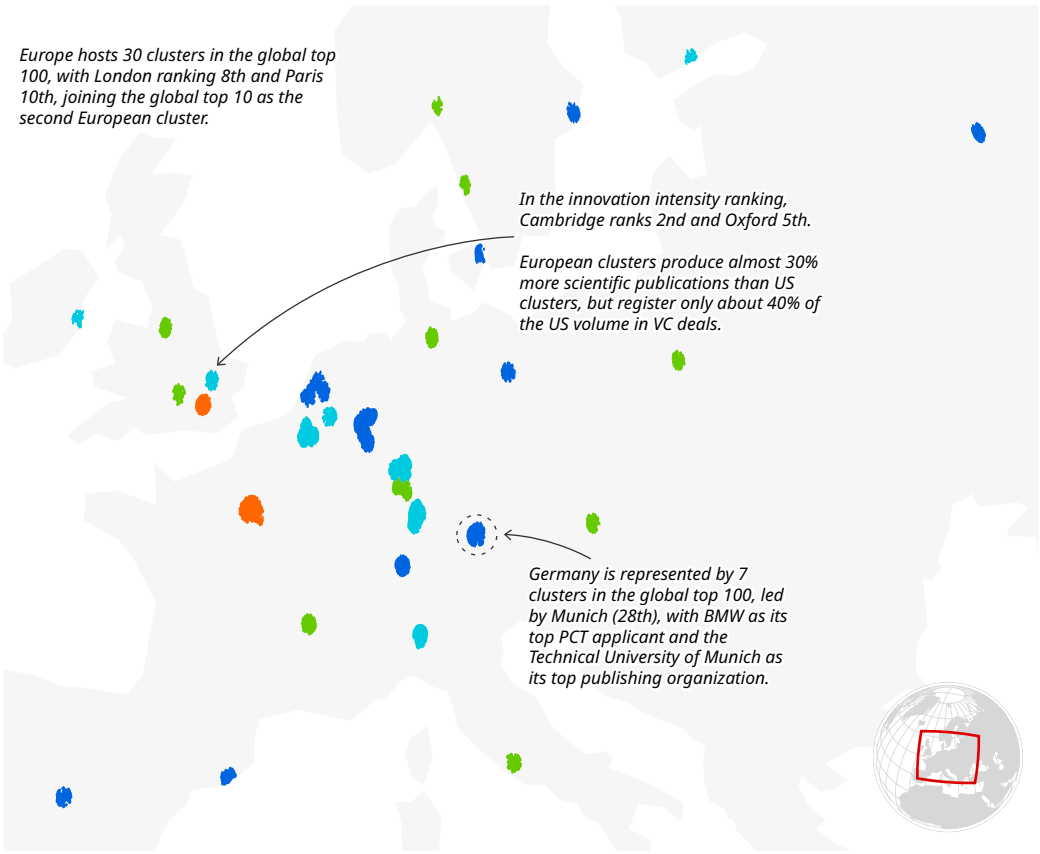
(a) Northern America



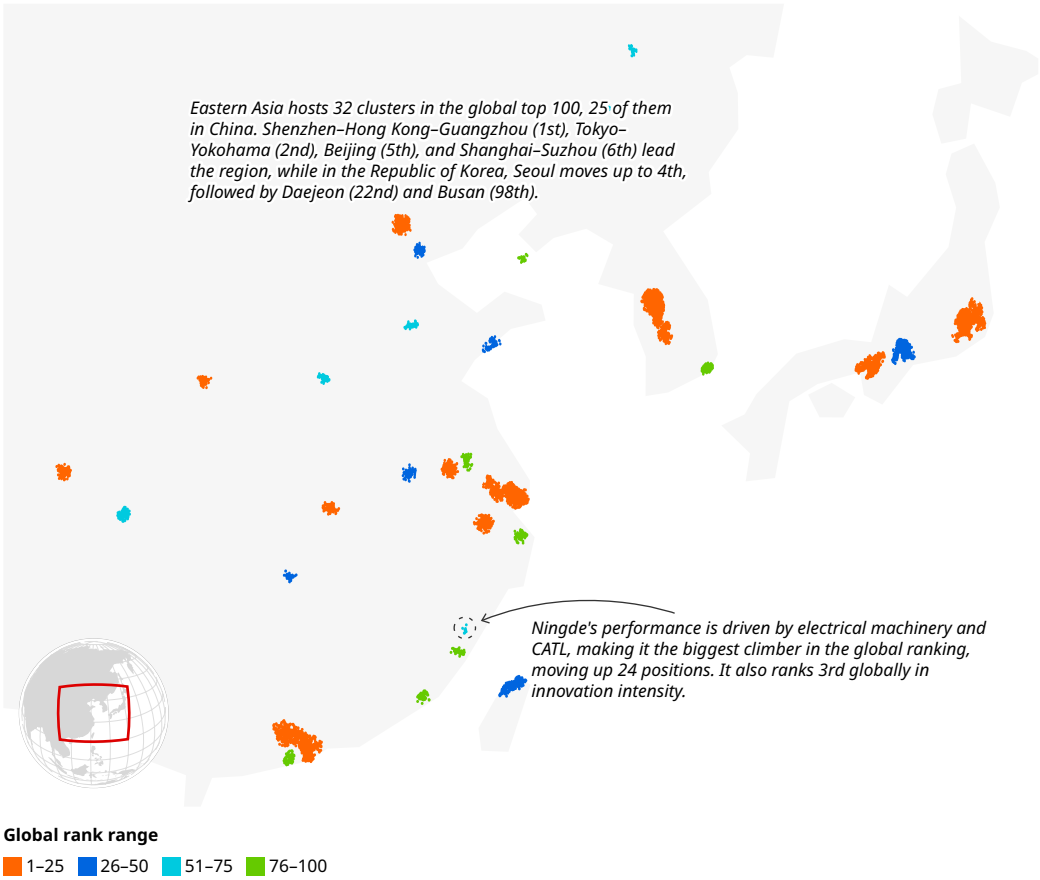
2 Note that the Russian Federation, with one cluster in 2026 (Moscow, ranking 50th), continues to be classified as a high-income economy and therefore does not feature in this list.

3 GII 2024: Sustaining the rise of top-notch African innovation clusters, *GII Innovation Insights*, November 20, 2024, www.wipo.int/en/web/global-innovation-index/w/blogs/2024/gii-2024-african-innovation-clusters.

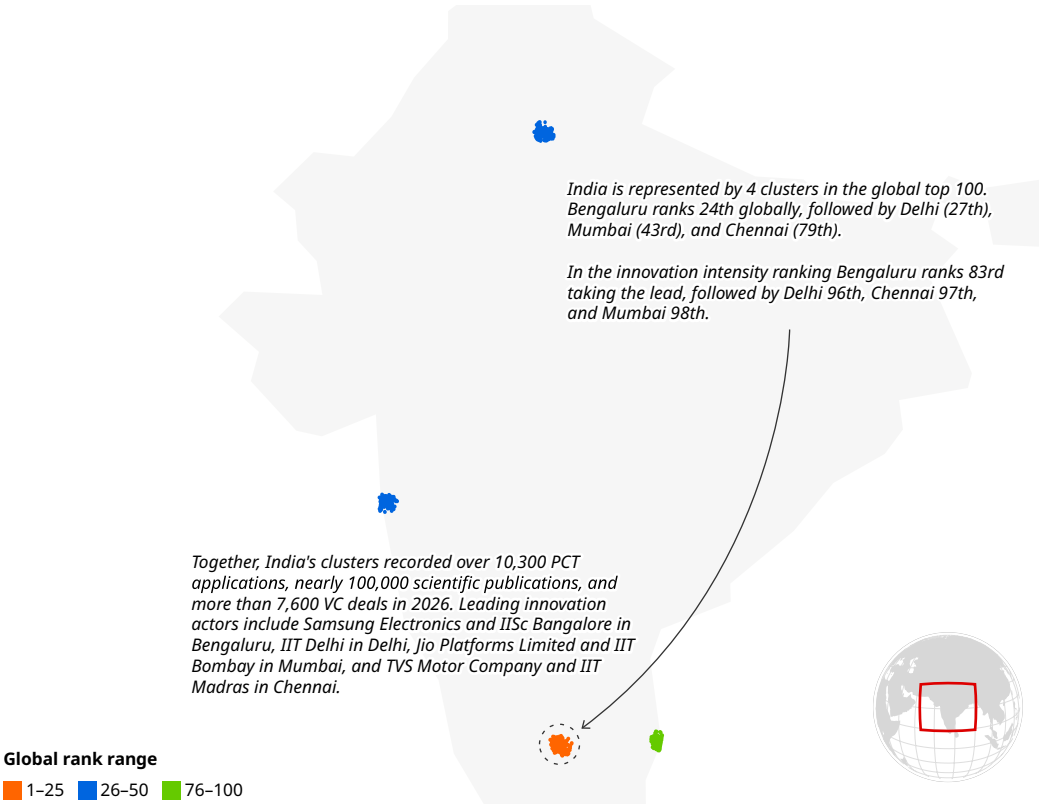
(b) Europe



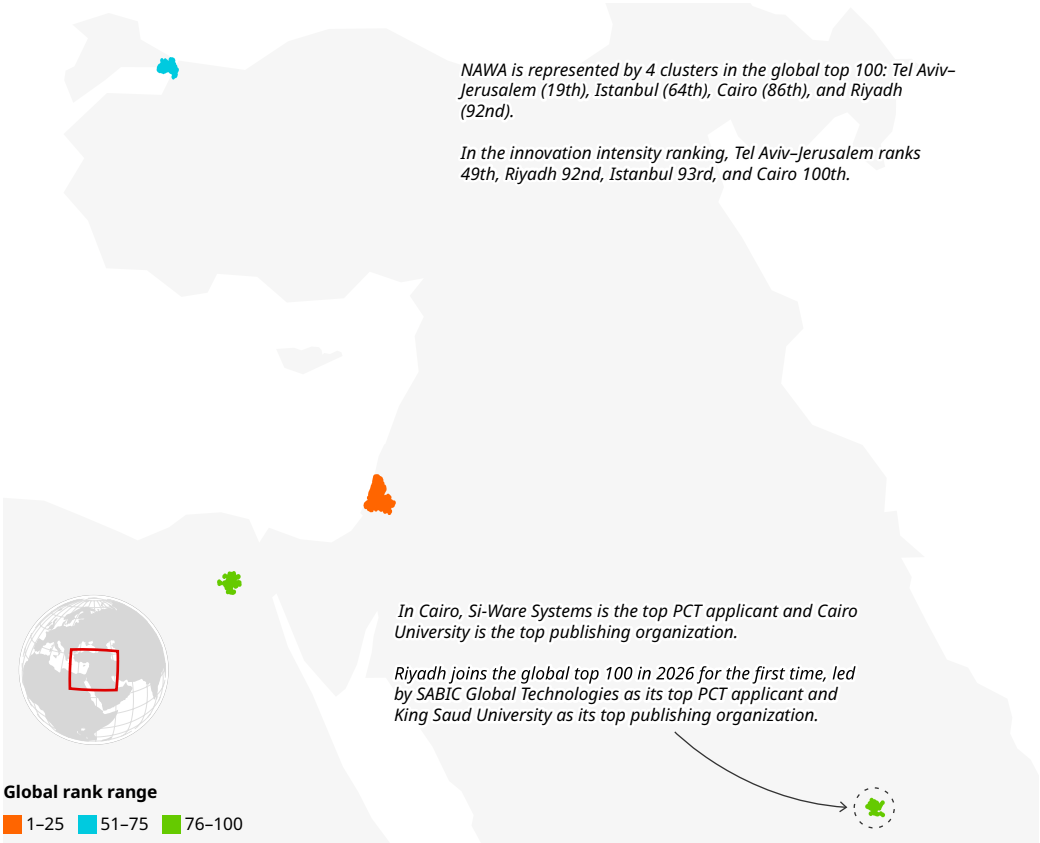
(c) Eastern Asia



(d) India



(e) Northern Africa and Western Asia



Source: WIPO Statistics Database, June 2026.

Top innovation-intensive clusters per capita

San Jose–San Francisco and Cambridge lead; Daejeon (Republic of Korea) enters top 10 for the first time

The GII also ranks the top 100 clusters by innovation intensity – measured as the combined global share of patents, scientific publications, and VC deals, normalized by population (see Appendix IV for methodology).

In the latest 2026 ranking, San Jose–San Francisco (United States) and Cambridge (United Kingdom) retain the top two positions, while Ningde (China) rises to third, up from fourth in 2025, consolidating a remarkable ascent driven by the dominant patent activity of Contemporary Amperex Technology Co., Limited (CATL), a global leader in battery technology (Table 3). Boston–Cambridge (United States) and Oxford (United Kingdom) round out the top five, and Daejeon (Republic of Korea) enters the top 10 intensity ranking for the first time, advancing five places to 10th.

The United States leads with four of the top 10 intensity ranked clusters, followed by the United Kingdom with two, and one each in China (Ningde), Finland (Helsinki), the Kingdom of the Netherlands (Eindhoven) and the Republic of Korea (Daejeon). Daejeon's entry into the top 10, anchored by LG Energy Solution and the Korea Advanced Institute of Science & Technology (KAIST), is a notable development, adding a second battery and energy technology hub to the intensity ranking alongside Ningde.

Table 3 Top innovation clusters by intensity, 2026

Rank per-capita	Cluster name	Economy	Top applicant	Top scientific organization
1	San Jose–San Francisco	US	Google	Stanford University
2	Cambridge	GB	ARM	Cambridge University
3	Ningde	CN	CATL	Ningde Normal University
4	Boston–Cambridge	US	MIT	MIT
5	Oxford	GB	Oxford University	Oxford University
6	San Diego	US	Qualcomm	University of California San Diego
7	Seattle	US	Microsoft	University of Washington Seattle
8	Helsinki	FI	Nokia	University of Helsinki
9	Eindhoven	NL	Philips Electronics	Eindhoven University of Technology
10	Daejeon	KR	LG Energy Solution	KAIST
11	Stockholm	SE	LM Ericsson	Karolinska Institutet
12	Copenhagen	DK	Danmarks Tekniske Universitet	University of Copenhagen
13	Zürich	CH	ETH Zürich	ETH Zürich
14	Austin	US	University of Texas	University of Texas Austin
15	Munich	DE	BMW	Technical University of Munich
16	Raleigh	US	Duke University	Duke University
17	Göteborg	SE	LM Ericsson	Chalmers University of Technology
18	London	GB	Nicoventures Trading	University College London
19	Beijing	CN	BOE Technology	Tsinghua University
20	Hangzhou	CN	Zhejiang University	Zhejiang University

Notes: Economy codes are based on WIPO Standard ST.3 two-letter codes for the representation of states, other entities and organizations. (a) Per capita figures refer to 1,000,000 of population. (n.a.) indicates not applicable. CATL = Contemporary Amperex Technology Co., Limited, IBM = International Business Machines, KAIST = Korea Advanced Institute of Science & Technology, MIT = Massachusetts Institute of Technology.

Source: WIPO Statistics Database, June 2026.

This year's leading clusters draw on major research institutions, including Stanford, Cambridge, MIT, and Oxford. Patenting activity remains concentrated among firms such as Google, ARM, Microsoft and Qualcomm, while CATL and LG Energy Solution stand out among industrial innovators – reflecting the growing weight of energy and battery technologies in global patenting.

Top 20

Stockholm (Sweden) and Copenhagen (Denmark) hold steady at 11th and 12th, respectively, led by LM Ericsson and Danmarks Tekniske Universitet as the top patent applicants in each cluster. Zürich (Switzerland) and Austin (United States) swap places, with Zürich rising to 13th (+1) and Austin slipping to 14th (–1). Munich (Germany) enters the top 15 intensity ranking for the first time, advancing one place to 15th (+1).

Göteborg (Sweden) advances three places to 17th (+3), driven by an 8.4 percent rise in VC activity per capita, even though patents and publications per capita declined (–5.9 percent, –5.8 percent, respectively); LM Ericsson and Chalmers University of Technology lead its patent and publication output. Beijing (China) declines one spot to 19th (–1): patents and publications per capita both grew (+5.2 percent, +4.9 percent), but VC deals per capita fell by more than half (–56.3 percent); BOE Technology and Tsinghua University remain its leading patent applicant and scientific organization. Hangzhou (China) enters the top 20 intensity ranking for the first time (20th, +5), with growth across all three metrics, patents per capita up 5.7 percent, publications up 19.0 percent and VC deals up 13.1 percent, all anchored by Zhejiang University.

Top 30

Oslo (Norway) holds on to 21st position, despite a marked decline across all three metrics (patents –9.9 percent, publications –5.8 percent, VC –7.1 percent), led by Oslo University Hospital in patents and the University of Oslo in scientific publications. Philadelphia (United States) enters the top 30 for the first time, in 2026 (28th, +4), propelled by a significant 18.7 percent jump in VC activity per capita, even though publications slipped slightly (–1.4 percent); the University of Pennsylvania leads both its patenting and publication output. Vancouver (Canada) slips two places to 29th (–2), with declines across all three metrics (patents –2.9 percent, publications –6.4 percent, VC –5.1 percent), led throughout by the University of British Columbia.

Top 50

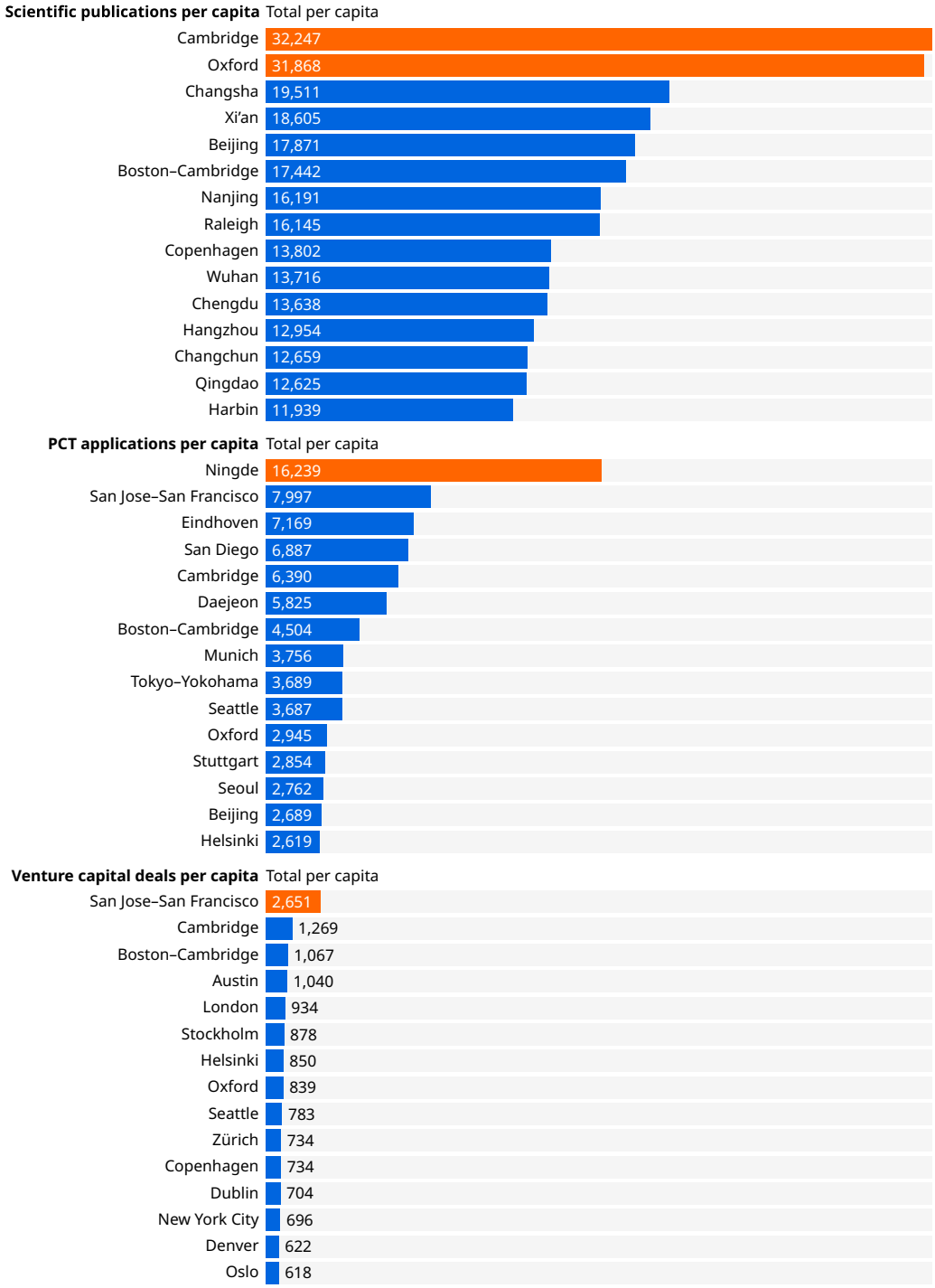
Four clusters enter the top 50, in 2026, each of which is growth-led: Xi'an (China, 42nd, +15), patents and publications up 9.1 percent and 12.8 percent, respectively, and VC surging off a very low base, led by Xi'an Jiaotong University in publications; Chengdu (China, 46th, +13), broad-based growth across all three metrics (+23.7 percent, +24.8 percent, +24.2 percent, respectively), led by Sichuan Kelun-biotech Biopharmaceutical in patents and Sichuan University in publications; Heidelberg–Mannheim (Germany, 47th, +5), up in VC (+10.4 percent) and patents (+4.5 percent), despite a 2.6 percent dip in publications; and Miami (United States, 50th, +5), VC-led (+8.7 percent), with the University of Miami leading both patenting and publications.

Different paths to innovation intensity among top clusters

Across the full ranking of 100 clusters, the underlying drivers of innovation intensity vary considerably, the pattern looking different depending on the metric (Figure 4). In respect to PCT patent applications per capita, Ningde (China), San Jose–San Francisco (United States) and Eindhoven (Kingdom of the Netherlands) hold the top three positions, and patent leadership tracks closely overall ranking: nine of the 10 most patent-intensive clusters sit inside the top 25 overall, with only Tokyo–Yokohama (27th) breaking that pattern. VC deals per capita show the same degree of concentration, led by San Jose–San Francisco, Cambridge (United Kingdom) and Boston–Cambridge (United States); all 10 most VC-intensive clusters rank inside the top 18 overall.

Oxbridge leads in knowledge intensity, Ningde in patents, and Silicon Valley in venture capital

Figure 4 Top 15 innovation intensive clusters, by metric per capita, 2026



Note: Per capita figures refer to 1,000,000 of population.
Source: WIPO Statistics Database, June 2026.

Scientific publications per capita tells a different story. Cambridge and Oxford lead at 32,247 and 31,868 per million inhabitants, respectively, far ahead of any other cluster; but the rest of the publication leaderboard is far more dispersed than for either patents or VC. Four of the 10 most publication-intensive clusters globally rank outside the top 25 by intensity: Changsha (34th overall, 19,511 per million), Xi'an (42nd, 18,605), Nanjing (37th, 16,191) and Wuhan (48th, 13,716). A top 25 view misses this entirely: publications is the only metric of the three where genuine global leadership sits well outside the leading composite rankings, pointing to a distinct cohort of science-driven clusters whose research output far outpaces its patenting and VC activity.

This divergence produces markedly different cluster profiles, which are visible across the full ranking rather than only at the top:

- Cambridge and Oxford (both United Kingdom), Boston–Cambridge (United States) and Göteborg (Sweden) stand out as the most balanced clusters within the top 25, in terms of rank spreads across the three metrics. Zürich (Switzerland), Copenhagen (Denmark), Helsinki (Finland), Hangzhou (China) and Raleigh (United States) also represent broadly balanced clusters, as do Montréal (Canada, 57th) and Brussels–Antwerp (Belgium, 60th) much further down the ranking.
- Ningde (China) continues to lead in PCT applications per capita (over 16,000), yet has minimal scientific output and VC activity. Similar patterns are evident in Eindhoven (Kingdom of the Netherlands), Munich and Stuttgart (both Germany), Daejeon (Republic of Korea) and an entire trio of Japanese clusters, Nagoya, Osaka-Kobe-Kyoto and Tokyo-Yokohama.
- Austin (United States), London (United Kingdom) and New York City (United States) all excel in VC deal activity, but are relatively low ranking when it comes to global publications, a pattern now joined by Miami (United States, 50th overall).
- Chinese clusters Changchun, Changsha, Chengdu, Harbin, Nanjing, Wuhan, and Xi'an have solid publication activity, but are relatively low ranking in terms of patent and VC deal activity.

This variation highlights that there are distinct innovation models at play. These range from science-driven ecosystems to patent-intensive industrial hubs and VC-heavy startup centers, each representing a unique path to innovation.

Helsinki and Eindhoven lead the European Union in innovation cluster intensity

Helsinki (8th, Finland) and Eindhoven (9th, Kingdom of the Netherlands) emerge as the highest-ranking clusters within the European Union (EU) (Table 3). They are followed by EU clusters Stockholm (11th, Sweden), Copenhagen (12th, Denmark) and Munich (15th, Germany). With five EU clusters now among the top 15 by intensity, the EU's presence among innovation-intensive hubs has strengthened compared to 2025. The United Kingdom is an outstanding performer within Europe more generally, with Cambridge (2nd), Oxford (5th) and London (18th) consistently ranking among the most intensive innovation hubs globally.

When focusing on innovation intensity – which accounts for patent filings, scientific publications and VC deals relative to population – Northern American clusters continue to outperform their Asian and EU counterparts, especially with respect to higher VC activity. This underscores a persistent difference between these two contrasting regional innovation models. European clusters, by contrast, derive their intensity from having a more balanced integration of research excellence, patenting activity and VC, with Cambridge, Copenhagen, Göteborg, Helsinki, Oxford and Zürich exemplifying this multi-dimensional strength in 2026. On the other hand, Northern America excels in commercialization and VC activity, accounting for eight of the top 25 innovation-intensive clusters. This includes three of the five clusters with the highest VC intensity: namely, San Jose–San Francisco, Boston–Cambridge, and Austin, which are all located in the United States.

Scale versus intensity

Not every top-ranked innovation cluster has achieved its position for the same reason. Some excel through sheer volume of innovation output, whereas others perform well above their weight relative to population size. This section takes a closer look at these two dimensions.

Only two clusters are among both the global top 10 and the top 10 by innovation intensity – San Jose–San Francisco and Boston–Cambridge – a status that remains unchanged from last year. Both are located in the United States. Expanding to include the top 25, a further eight clusters appear in both rankings: San Diego, Seattle, and New York City (all United States), Beijing and Hangzhou (both China), Daejeon and Seoul (both Republic of Korea) and London (United Kingdom). Their presence across both rankings underscores that the most prolific innovation clusters are in many cases also among the most intensive relative to population. Daejeon's appearance in both rankings, driven by LG Energy Solution and KAIST, echoes the rise of Ningde

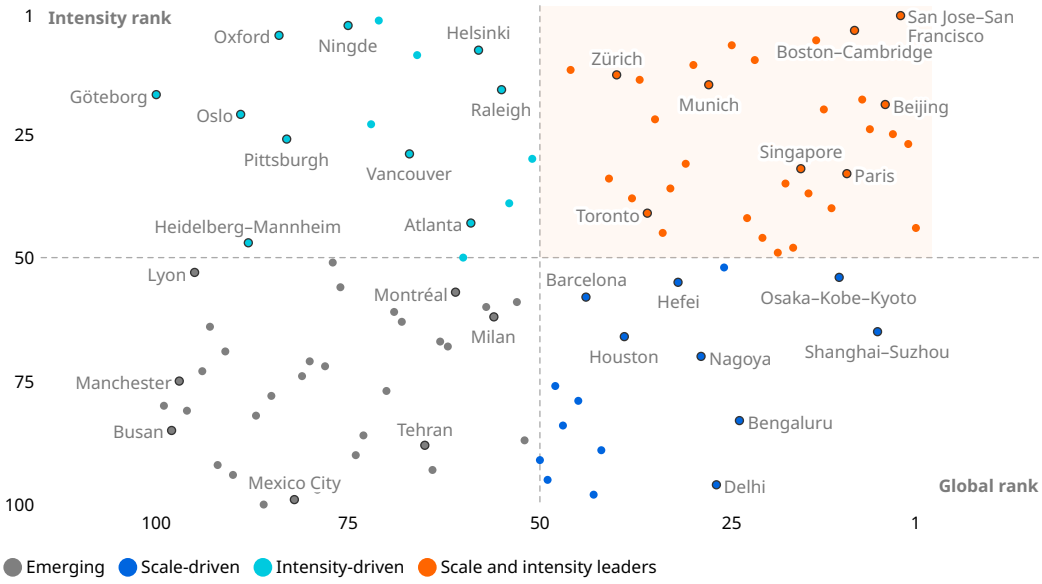
in the intensity ranking, pointing to the growing global weight of battery and energy technology clusters in innovation output.

Figure 5 extends this comparison across the full ranking, classifying all 100 clusters according to two distinct dimensions of competitiveness: scale, reflected in the global ranking; and intensity, reflected in the per-capita ranking. The resulting distribution is notably symmetric: 34 clusters rank in the top half in both dimensions, the scale and intensity leaders; and an equal number rank in the bottom half in both dimensions, the emerging group; while the rest split evenly between the scale- and intensity-driven profiles, with 16 in each.

Regional patterns reinforce the point. Northern America shows the highest concentration of leadership, with 12 of its 23 clusters – just over half – ranking among the scale and intensity leaders, whereas Europe supplies the majority of intensity-driven clusters (nine of 16), having specialized hubs, such as Oxford and Cambridge, that achieve outsized per-capita output, despite a modest absolute scale. The scale-driven quadrant, meanwhile, is largely populated by clusters located in highly populous economies, including Delhi, Bengaluru and Shanghai–Suzhou, the same high-volume, lower-intensity pattern already evident in China's national figures.

Northern America and Eastern Asia lead on scale and intensity; Europe leads on intensity-driven

Figure 5 Scale versus intensity in the world's top 100 innovation clusters, 2026



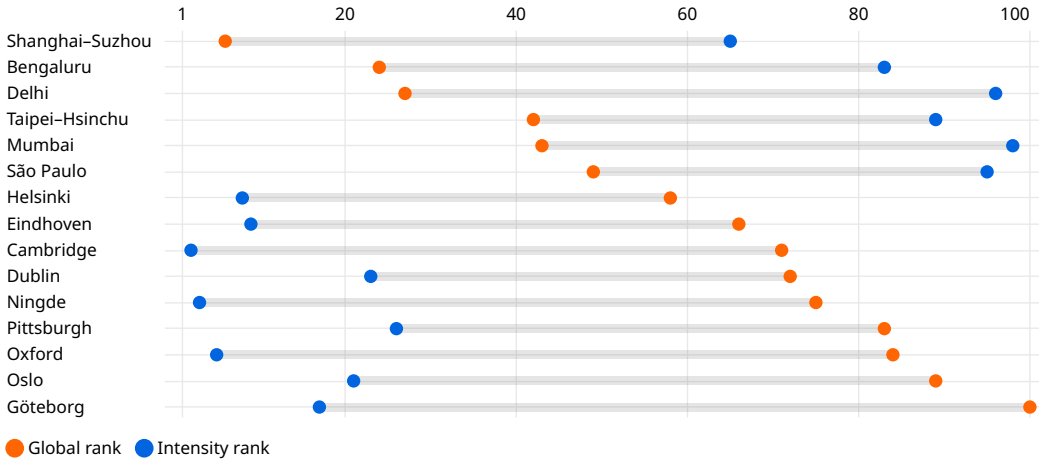
Source: WIPO Statistics Database, June 2026.

Göteborg (Sweden) shows the widest gap of all, ranking 100th globally, but 17th by intensity (Figure 6). Oxford and Cambridge (both United Kingdom), Ningde (China, 75th globally, but 3rd by intensity), Oslo (Norway), Eindhoven (Kingdom of the Netherlands), Pittsburgh (United States), Helsinki (Finland) and Dublin (Ireland) show the same pattern, with the intensity rank far outpacing the global rank. These are largely university towns and single-company clusters whose modest absolute scale conceals an outsized per-capita footprint.

Delhi (India) exhibits the largest gap running the opposite way, ranking 27th globally, but 96th by intensity. Shanghai–Suzhou (China) and Bengaluru (India) follow closely, each with a 59-place gap, then Mumbai (India), Taipei–Hsinchu (Taiwan Province of China) and São Paulo (Brazil). The pattern repeats across Brazil, China, and India's biggest innovation hubs.

Shanghai–Suzhou, Bengaluru and Delhi lead globally despite lower intensity, while smaller hubs like Cambridge, Ningde and Oxford stand out in intensity despite modest global rank

Figure 6 Top 15 innovation clusters with greatest differences between global rank and intensity rank, 2026



Source: WIPO Statistics Database, June 2026.

Appendix IV – Global Innovation Index innovation cluster methodology

Since 2016, the Global Innovation Index (GII) has sought to identify innovation clusters using a bottom-up approach (Bergquist and Fink, 2020). This approach disregards administrative or political borders and instead pinpoints those geographical areas that show a high density of inventors and scientific authors. The resulting clusters often encompass several municipal districts, sub-federal states and sometimes even two or more countries.

Three innovation metrics are employed in the compilation of the top 100 GII innovation clusters worldwide: the location of inventors listed in published patent applications; the location of authors listed in published scientific articles; and the location of firms in receipt of venture capital (VC) investment.

For patents, this method relies on applications under WIPO's Patent Cooperation Treaty (PCT). PCT patents offer a useful basis for analyzing patents globally. The PCT system applies a single set of procedural rules and collects information based on uniform filing standards. This reduces any potential biases that could arise from using data collected from multiple national sources. The patents selected were published between 2021 and 2025, the most recent five-year period available. This is to minimize the volatility that can occur between given years.

As a second step, scientific publications from the Web of Science's Science Citation Index Expanded (SCIE) were incorporated. The SCIE provides detailed coverage of the world's most impactful academic journals. For the purposes of the analysis, science and technology fields were the focus, whereas articles from the fields of social sciences and humanities were disregarded. In addition, scientific publications were limited solely to articles of original research. This is to exclude other published items, such as meeting abstracts, conference summaries or paper briefs. As with PCT filings, the most recent five-year period according to data availability was used for the SCIE – publication years 2020 to 2024.

For a second consecutive year, VC deal data were incorporated in order to further enrich the understanding of innovation activity at the cluster level. By integrating information on firms that have been in receipt of VC funding, the analysis is able to capture entrepreneurial and early-stage innovation activity, reflecting not only scientific and inventive outputs, but also innovation finance and startup dynamics.

For VC data, PitchBook's Venture Capital Database was utilized. The database offers detailed deal-level VC count and value information, and is used to identify the precise geographic location of firms receiving VC investments. As we wanted to capture VC activity, the total number of deals was counted, regardless of the total value. A VC deal is defined as any firm-funding event. Thus a firm that had multiple funding events may appear multiple times in the deal counts. VC data were sourced for the same five-year period as were scientific articles, that is 2020–2024, based on the year the funding event took place.

The WIPO PCT patent data set consists of approximately 1.3 million patent applications published between 2021 and 2025, containing 4.4 million inventor addresses. For the SCIE, the data set comprises 8.6 million articles published between 2020 and 2024, containing 30.4 million listed author addresses. For PitchBook's Venture Capital Database, the data set consists of 51,576 locations between 2020 and 2024, containing 237,796 deals.

The geocoding process for addresses used in this report is as follows. PCT inventor addresses were geocoded using the Environmental Systems Research Institute (ESRI) ArcGIS World Geocoder service. In cases where the ESRI results were ambiguous or insufficiently accurate, the city name was extracted from the address string and matched against entries in a dataset derived from the GeoNames Gazetteer database[i]—a global dataset of approximately 766,000 geocoded city names. If the extracted city did not match any record in GeoNames, an attempt was made to geocode the city name directly using the World Geocoder service.

This same city-matching approach was applied to SCIE author addresses and VC deal locations. In both datasets, the addresses were provided in a pre-parsed format, which significantly improved the ability to match them using the GeoNames database. For SCIE and VC city names that could not be matched using GeoNames, again an attempt was made to geocode the city name using ESRI's World Geocoder.

Overall, 99.9 percent of inventor addresses were geocoded either at the city level or a more accurate level, while 99.8 percent of scientific author addresses were geocoded at the city level. For VC data, 99.5 percent of VC deals were geocoded at the city level or better. Appendix IV Table 1 provides a summary of the geocoding results for the top 20 countries, which together account for the majority of inventor, scientific author and VC deals addresses. As shown in the table, the coverage of geocoded PCT inventor addresses across all 20 countries was above 97 percent. Similarly, coverage of scientific author addresses and VC deal addresses was high at above 96 percent.

Addresses were clustered by applying the density-based spatial clustering of applications with the noise (DBSCAN) algorithm. This algorithm requires predefined radius and density parameters. As in previous years, a radius of 15 km and a density of 4,500 listed inventors/authors were applied. Equal weight was given to inventors and authors by expressing data points as a share of total inventor and author addresses, respectively. Given that the number of scientific articles far exceeds that of patents, cluster identification based on the raw data points would have resulted in clusters shaped predominantly by the scientific author landscape.

The location of VC-backed firms was excluded from the initial cluster formation process, because of the relatively high degree of geographic dispersion compared to PCT inventors and scientific article authors. The sparser distribution of VC data points risked introducing noise and distorting cluster boundaries if it had been included during the DBSCAN algorithm execution. To address this limitation, VC locations were assigned to clusters *post hoc* using a modified nearest-neighbor approach. Specifically, the DBSCAN prediction function was adapted so as to assign each VC point to a cluster if it fell within 15 km of any core point within that cluster. Critically, we restricted distance calculations to core points only, excluding boundary points from consideration. This approach ensures that VC firms are only assigned to clusters having a sufficiently dense level of entrepreneurial activity within their immediate vicinity, thereby remaining consistent with the density-based clustering logic, while at the same time accommodating the distinctive spatial distribution of VC investments.

The clustering step resulted in an initial list of 244 clusters. After review, neighboring clusters were merged if the edge of one cluster was within 3–5 km of another and where the co-author/co-inventor relationships were higher than for any other relationship with any other cluster or non-cluster points. A total of 18 clusters met these criteria, with mergers reducing the overall number of clusters identified to 235.

The remaining 235 clusters were then ranked by counting the number of patents, scientific articles and VC deals within a given cluster. Numbers were aggregated using fractional counting, in which counts reflect the share of a patent's inventors and an article's authors present within a given cluster. In addition, mirroring the equal weighting approach described above, fractional counts are relative to the total numbers of patents, scientific articles and VC deals (Appendix IV Table 2).

To produce an intensity ranking, the European Commission's Global Human Settlement Layer (GHSL) population distribution data (Schiavina *et al.,* 2023) were matched geographically to the top 100 clusters identified in the overall ranking (Appendix IV Table 3). Just as with inventor/author geocoded locations, these population data allowed the total population of a cluster to be defined using a bottom-up approach. We chose to define a cluster's area as being all the space within 0.05 degrees of each inventor/author location. Overlaying the resultant cluster polygons on top of the population data and aggregating all points that lay within each polygon gave a total population estimate for each cluster. Clusters were then ranked by dividing the total innovation share by population. The GHSL estimated population for 2025 was utilized for this year (2026).

Appendix IV Table 1 Summary of geocoding results, 2026

	Scientific publications			PCT applications			Venture Capital deals		
Country	Number of addresses	City-level address accuracy (%)	Publications covered (%)	Number of addresses	City-level address accuracy (%)	Applications covered (%)	Number of addresses	City-level address accuracy (%)	Deals covered (%)
China	7,712,104	100.0	100.0	1,267,052	99.9	99.9	3,756	98.4	99.7
United States of America	4,879,281	100.0	100.0	969,360	100.0	100.0	11,120	99.0	99.4
Germany	1,223,706	99.9	100.0	260,211	99.7	99.8	1,506	98.6	99.7
Japan	1,103,031	99.4	99.8	619,850	99.8	99.9	1,685	98.2	99.6
United Kingdom	1,068,254	99.4	99.6	92,170	99.9	99.9	7,377	97.2	98.6
Italy	1,026,791	99.9	100.0	48,862	99.6	99.7	679	98.4	99.5
India	964,513	99.3	99.6	70,473	99.7	99.7	1,461	99.3	99.9
France	847,856	99.3	99.6	111,112	99.3	99.5	1,596	96.9	99.4
Republic of Korea	826,066	99.3	99.6	355,872	99.9	99.9	1,609	98.5	99.8
Spain	800,852	99.6	99.8	28,777	99.8	99.8	882	98.0	99.6
Canada	714,052	100.0	100.0	52,330	100.0	99.9	3,079	98.1	99.3
Australia	683,017	99.9	99.9	21,601	99.9	99.9	871	97.1	99.2
Brazil	636,355	99.8	99.8	10,615	99.7	99.8	1,445	99.1	99.6
Türkiye	434,587	98.7	98.5	20,848	97.5	98.3	235	99.6	100.0
Netherlands (Kingdom of the)	412,518	99.8	99.9	55,878	99.8	99.7	1,516	99.3	99.7
Russian Federation	387,411	99.8	99.8	14,407	99.6	99.7	256	99.6	99.8
Switzerland	289,478	99.9	99.9	46,692	99.9	99.9	465	97.6	99.7
Sweden	267,542	99.9	100.0	46,053	99.4	99.4	1,108	98.9	99.4
Israel	145,726	98.6	99.5	31,878	98.0	98.6	1,187	98.2	99.1
Singapore	130,844	99.8	99.8	19,110	99.9	99.9	926	98.3	99.6
World total	**30,471,156**	**99.7**	**99.9**	**4,382,857**	**98.5**	**98.5**	**51,576**	**98.0**	**99.3**

Notes: This list comprises the top 20 countries in order of the highest combined share of patents and scientific articles. PCT inventor addresses were geocoded to the highest level of detail. Due to the much larger volume, scientific author addresses were geocoded only to the city level. Venture capital data were also geocoded only to the city level due to data availability.

Source: WIPO Statistics Database, June 2026.

Appendix IV Table 2 Top innovation clusters, 2026

Rank	Cluster name	Economy	PCT applications	Scientific publications	Venture capital deals	Share of global PCT fillings	Share of global scientific publications	Share of global venture capital deals	Total	Previous rank	Rank change
1	Shenzhen–Hong Kong–Guangzhou	CN / HK	120,095	215,866	7,325	9.2%	2.5%	3.1%	14.8%	1	0
2	Tokyo–Yokohama	JP	132,669	115,303	5,248	10.1%	1.3%	2.2%	13.7%	2	0
3	San Jose–San Francisco	US	50,255	55,788	16,659	3.8%	0.7%	7.1%	11.5%	3	0
4	Seoul	KR	73,770	144,898	7,566	5.6%	1.7%	3.2%	10.5%	5	1
5	Beijing	CN	54,298	360,830	3,044	4.1%	4.2%	1.3%	9.6%	4	–1
6	Shanghai–Suzhou	CN	45,295	227,284	6,965	3.5%	2.7%	2.9%	9.1%	6	0
7	New York City	US	13,355	74,460	11,230	1.0%	0.9%	4.8%	6.6%	7	0
8	London	GB	7,360	55,931	10,157	0.6%	0.7%	4.3%	5.5%	8	0
9	Boston–Cambridge	US	19,326	74,838	4,579	1.5%	0.9%	1.9%	4.3%	9	0
10	Paris	FR	16,654	60,375	4,010	1.3%	0.7%	1.7%	3.7%	12	2
11	Osaka–Kobe–Kyoto	JP	36,830	51,853	543	2.8%	0.6%	0.2%	3.6%	11	0
12	Los Angeles	US	11,266	42,716	5,105	0.9%	0.5%	2.2%	3.5%	10	–2
13	Hangzhou	CN	11,309	92,832	3,047	0.9%	1.1%	1.3%	3.2%	13	0
14	San Diego	US	27,742	19,518	1,566	2.1%	0.2%	0.7%	3.0%	14	0
15	Nanjing	CN	7,882	149,715	903	0.6%	1.7%	0.4%	2.7%	15	0
16	Singapore	SG / MY	5,708	34,412	4,131	0.4%	0.4%	1.7%	2.6%	16	0
17	Wuhan	CN	7,049	122,556	730	0.5%	1.4%	0.3%	2.3%	18	1
18	Washington DC–Baltimore	US	6,659	70,263	2,123	0.5%	0.8%	0.9%	2.2%	17	–1
19	Tel Aviv–Jerusalem	IL	6,605	25,114	2,872	0.5%	0.3%	1.2%	2.0%	19	0
20	Philadelphia	US	5,875	32,444	2,571	0.4%	0.4%	1.1%	1.9%	23	3
21	Chengdu	CN	2,989	98,652	1,241	0.2%	1.2%	0.5%	1.9%	24	3
22	Daejeon	KR	16,501	30,209	620	1.3%	0.4%	0.3%	1.9%	25	3
23	Xi'an	CN	2,459	121,543	573	0.2%	1.4%	0.2%	1.8%	29	6
24	Bengaluru	IN	5,262	17,277	2,898	0.4%	0.2%	1.2%	1.8%	21	–3
25	Seattle	US	9,643	19,243	2,047	0.7%	0.2%	0.9%	1.8%	20	–5
26	Amsterdam–Rotterdam	NL	4,542	51,371	2,017	0.3%	0.6%	0.9%	1.8%	22	–4
27	Delhi	IN	1,212	37,365	2,644	0.1%	0.4%	1.1%	1.6%	26	–1
28	Munich	DE	10,646	26,956	996	0.8%	0.3%	0.4%	1.5%	27	–1
29	Nagoya	JP	16,083	20,660	122	1.2%	0.2%	0.1%	1.5%	28	–1
30	Stockholm	SE	5,614	19,018	2,023	0.4%	0.2%	0.9%	1.5%	32	2
31	Berlin	DE	3,008	24,377	2,245	0.2%	0.3%	1.0%	1.5%	30	–1
32	Hefei	CN	4,979	55,257	961	0.4%	0.6%	0.4%	1.4%	39	7
33	Qingdao	CN	7,480	59,781	326	0.6%	0.7%	0.1%	1.4%	34	1
34	Chicago	US	3,898	28,880	1,736	0.3%	0.3%	0.7%	1.4%	31	–3
35	Denver	US	3,559	21,239	1,971	0.3%	0.2%	0.8%	1.4%	35	0
36	Toronto	CA	2,679	28,050	1,872	0.2%	0.3%	0.8%	1.3%	33	–3
37	Austin	US	2,721	9,444	2,252	0.2%	0.1%	1.0%	1.3%	37	0
38	Sydney	AU	2,681	33,903	1,516	0.2%	0.4%	0.6%	1.2%	36	–2
39	Houston	US	7,650	23,072	901	0.6%	0.3%	0.4%	1.2%	38	–1
40	Zürich	CH	4,031	23,705	1,491	0.3%	0.3%	0.6%	1.2%	40	0
41	Changsha	CN	1,550	74,255	441	0.1%	0.9%	0.2%	1.2%	44	3
42	Taipei–Hsinchu	TW*	3,831	56,526	434	0.3%	0.7%	0.2%	1.1%	41	–1
43	Mumbai	IN	2,275	16,717	1,717	0.2%	0.2%	0.7%	1.1%	46	3
44	Barcelona	ES	2,070	30,533	1,314	0.2%	0.4%	0.6%	1.1%	45	1
45	Tianjin	CN	1,320	69,976	359	0.1%	0.8%	0.2%	1.1%	50	5
46	Copenhagen	DK	3,124	24,131	1,284	0.2%	0.3%	0.5%	1.1%	42	–4
47	Cologne	DE	6,224	32,909	470	0.5%	0.4%	0.2%	1.1%	43	–4
48	Madrid	ES	1,622	40,065	1,009	0.1%	0.5%	0.4%	1.0%	47	–1
49	São Paulo	BR	675	23,754	1,595	0.1%	0.3%	0.7%	1.0%	49	0
50	Moscow	RU	1,764	61,352	317	0.1%	0.7%	0.1%	1.0%	48	–2
51	Minneapolis	US	6,581	13,990	755	0.5%	0.2%	0.3%	1.0%	51	0

Appendix IV Table 2 Top innovation clusters, 2026 (cont.)

Rank	Cluster name	Economy	PCT applications	Scientific publications	Venture capital deals	Share of global PCT fillings	Share of global scientific publications	Share of global venture capital deals	Total	Previous rank	Rank change
52	Chongqing	CN	1,401	60,161	367	0.1%	0.7%	0.2%	1.0%	57	5
53	Melbourne	AU	1,828	37,596	873	0.1%	0.4%	0.4%	0.9%	52	–1
54	Stuttgart	DE	9,216	14,064	147	0.7%	0.2%	0.1%	0.9%	54	0
55	Raleigh	US	2,976	28,051	868	0.2%	0.3%	0.4%	0.9%	53	–2
56	Milan	IT	2,592	33,045	715	0.2%	0.4%	0.3%	0.9%	56	0
57	Brussels–Antwerp	BE	2,822	27,487	800	0.2%	0.3%	0.3%	0.9%	55	–2
58	Helsinki	FI	3,263	13,160	1,059	0.2%	0.2%	0.4%	0.9%	60	2
59	Atlanta	US	1,883	21,822	1,052	0.1%	0.3%	0.4%	0.8%	59	0
60	Miami	US	943	8,436	1,545	0.1%	0.1%	0.7%	0.8%	67	7
61	Montréal	CA	2,823	24,294	737	0.2%	0.3%	0.3%	0.8%	62	1
62	Dallas	US	3,201	9,802	1,018	0.2%	0.1%	0.4%	0.8%	61	–1
63	Jinan	CN	1,705	46,618	227	0.1%	0.5%	0.1%	0.8%	68	5
64	Istanbul	TR	2,478	31,785	479	0.2%	0.4%	0.2%	0.8%	58	–6
65	Tehran	IR	405	58,732	107	0.0%	0.7%	0.0%	0.8%	63	–2
66	Eindhoven	NL	7,924	5,337	193	0.6%	0.1%	0.1%	0.7%	65	–1
67	Vancouver	CA	1,715	15,171	1,035	0.1%	0.2%	0.4%	0.7%	66	–1
68	Frankfurt am Main	DE	5,372	17,559	298	0.4%	0.2%	0.1%	0.7%	64	–4
69	Changchun	CN	1,778	45,552	89	0.1%	0.5%	0.0%	0.7%	72	3
70	Harbin	CN	385	56,296	42	0.0%	0.7%	0.0%	0.7%	70	0
71	Cambridge	GB	3,189	16,092	633	0.2%	0.2%	0.3%	0.7%	69	–2
72	Dublin	IE	969	10,582	1,107	0.1%	0.1%	0.5%	0.7%	71	–1
73	Zhengzhou	CN	683	41,911	151	0.1%	0.5%	0.1%	0.6%	80	7
74	Shenyang	CN	599	43,730	108	0.0%	0.5%	0.0%	0.6%	75	1
75	Ningde	CN	7,693	389	6	0.6%	0.0%	0.0%	0.6%	99	24
76	Vienna	AT	1,627	20,072	517	0.1%	0.2%	0.2%	0.6%	74	–2
77	Portland	US	2,616	6,266	709	0.2%	0.1%	0.3%	0.6%	73	–4
78	Xiamen	CN	2,296	21,694	323	0.2%	0.3%	0.1%	0.6%	81	3
79	Chennai	IN	1,555	23,307	395	0.1%	0.3%	0.2%	0.6%	84	5
80	Phoenix	US	2,026	8,925	700	0.2%	0.1%	0.3%	0.6%	78	–2
81	Rome	IT	964	31,754	229	0.1%	0.4%	0.1%	0.5%	82	1
82	Mexico City	MX	236	20,363	657	0.0%	0.2%	0.3%	0.5%	79	–3
83	Pittsburgh	US	1,833	15,776	485	0.1%	0.2%	0.2%	0.5%	76	–7
84	Oxford	GB	1,632	17,659	465	0.1%	0.2%	0.2%	0.5%	77	–7
85	Dalian	CN	746	36,997	88	0.1%	0.4%	0.0%	0.5%	88	3
86	Cairo	EG	179	26,673	469	0.0%	0.3%	0.2%	0.5%	83	–3
87	Ningbo	CN	1,204	17,622	525	0.1%	0.2%	0.2%	0.5%	93	6
88	Heidelberg–Mannheim	DE	4,125	12,845	114	0.3%	0.2%	0.0%	0.5%	87	–1
89	Oslo	NO	790	12,536	686	0.1%	0.1%	0.3%	0.5%	85	–4
90	Kuala Lumpur	MY	520	20,569	505	0.0%	0.2%	0.2%	0.5%	86	–4
91	Warsaw	PL	510	23,045	427	0.0%	0.3%	0.2%	0.5%	89	–2
92	Riyadh	SA	162	25,033	419	0.0%	0.3%	0.2%	0.5%	101	9
93	Hamburg	DE	1,603	11,515	508	0.1%	0.1%	0.2%	0.5%	91	–2
94	Zhenjiang	CN	1,118	28,336	120	0.1%	0.3%	0.1%	0.5%	100	6
95	Lyon	FR	2,030	11,663	402	0.2%	0.1%	0.2%	0.5%	90	–5
96	Fuzhou	CN	560	29,846	153	0.0%	0.3%	0.1%	0.5%	104	8
97	Manchester	GB	935	11,486	590	0.1%	0.1%	0.2%	0.5%	94	–3
98	Busan	KR	2,215	14,318	262	0.2%	0.2%	0.1%	0.4%	95	–3
99	Macau–Zhuhai	CN	2,801	6,862	361	0.2%	0.1%	0.2%	0.4%	98	–1
100	Göteborg	SE	2,057	9,849	410	0.2%	0.1%	0.2%	0.4%	97	–3

Note: Economy codes are based on WIPO Standard ST.3 two-letter codes for the representation of states, other entities and organizations. TW* refers to Taiwan Province of China.

Source: WIPO Statistics Database, June 2026.

Appendix IV Table 3 Innovation intensity ranking, 2026

Rank per-capita	Cluster name	Economy	Estimated cluster population	PCT applications per capita (a)	Scientific publications per capita (a)	Venture Capital deals per capita (a)	Total innovation intensity share per capita (a)	Rank change
1	San Jose–San Francisco	US	6,284,006	7,997	8,878	2,651	1.836	0
2	Cambridge	GB	499,014	6,390	32,247	1,269	1.401	0
3	Ningde	CN	473,714	16,239	821	13	1.254	1
4	Boston–Cambridge	US	4,290,782	4,504	17,442	1,067	0.999	−1
5	Oxford	GB	554,126	2,945	31,868	839	0.952	0
6	San Diego	US	4,028,320	6,887	4,845	389	0.747	1
7	Seattle	US	2,615,232	3,687	7,358	783	0.699	−1
8	Helsinki	FI	1,245,701	2,619	10,564	850	0.683	1
9	Eindhoven	NL	1,105,340	7,169	4,829	175	0.677	1
10	Daejeon	KR	2,832,924	5,825	10,663	219	0.662	5
11	Stockholm	SE	2,304,754	2,436	8,252	878	0.654	0
12	Copenhagen	DK	1,748,406	1,787	13,802	734	0.608	0
13	Zürich	CH	2,030,138	1,985	11,676	734	0.599	1
14	Austin	US	2,164,768	1,257	4,362	1,040	0.587	−1
15	Munich	DE	2,834,500	3,756	9,510	351	0.546	1
16	Raleigh	US	1,737,415	1,713	16,145	500	0.531	1
17	Göteborg	SE	877,616	2,344	11,222	467	0.508	3
18	London	GB	10,876,880	677	5,142	934	0.507	1
19	Beijing	CN	20,191,125	2,689	17,871	151	0.478	−1
20	Hangzhou	CN	7,166,556	1,578	12,954	425	0.452	5
21	Oslo	NO	1,110,016	711	11,294	618	0.448	0
22	Denver	US	3,166,889	1,124	6,707	622	0.428	0
23	Dublin	IE	1,573,379	616	6,726	704	0.423	0
24	New York City	US	16,142,782	827	4,613	696	0.411	0
25	Seoul	KR	26,712,809	2,762	5,424	283	0.394	3
26	Pittsburgh	US	1,353,872	1,354	11,653	358	0.391	0
27	Tokyo–Yokohama	JP	35,967,564	3,689	3,206	146	0.381	2
28	Philadelphia	US	5,181,493	1,134	6,261	496	0.370	4
29	Vancouver	CA	2,036,765	842	7,449	508	0.366	−2
30	Minneapolis	US	2,793,466	2,356	5,008	270	0.353	0
31	Berlin	DE	4,201,674	716	5,802	534	0.349	0
32	Singapore	SG / MY	7,962,035	717	4,322	519	0.325	1
33	Paris	FR	11,392,578	1,462	5,300	352	0.322	1
34	Changsha	CN	3,805,736	407	19,511	116	0.308	14
35	Washington DC–Baltimore	US	7,411,167	899	9,481	286	0.301	4
36	Qingdao	CN	4,735,093	1,580	12,625	69	0.297	8
37	Nanjing	CN	9,246,666	852	16,191	98	0.296	−1
38	Sydney	AU	4,279,378	626	7,923	354	0.290	0
39	Stuttgart	DE	3,229,165	2,854	4,355	46	0.288	4
40	Los Angeles	US	12,321,030	914	3,467	414	0.286	−3
41	Toronto	CA	4,648,547	576	6,034	403	0.285	−1
42	Xi'an	CN	6,532,790	376	18,605	88	0.283	15
43	Atlanta	US	2,982,064	631	7,318	353	0.283	−2
44	Shenzhen–Hong Kong–Guangzhou	CN / HK	53,163,094	2,259	4,060	138	0.278	1
45	Chicago	US	5,161,269	755	5,596	336	0.265	1
46	Chengdu	CN	7,233,559	413	13,638	172	0.263	13
47	Heidelberg–Mannheim	DE	1,998,592	2,064	6,427	57	0.257	5
48	Wuhan	CN	8,935,230	789	13,716	82	0.255	1
49	Tel Aviv–Jerusalem	IL	7,916,330	834	3,172	363	0.254	−7
50	Miami	US	3,278,699	288	2,573	471	0.251	5
51	Portland	US	2,300,655	1,137	2,723	308	0.249	−4
52	Amsterdam–Rotterdam	NL	7,259,856	626	7,076	278	0.248	−2

Appendix IV Table 3 Innovation intensity ranking, 2026 (cont.)

Rank per-capita	Cluster name	Economy	Estimated cluster population	PCT applications per capita (a)	Scientific publications per capita (a)	Venture Capital deals per capita (a)	Total innovation intensity share per capita (a)	Rank change
53	Lyon	FR	1,890,595	1,074	6,169	213	0.244	−2
54	Osaka–Kobe–Kyoto	JP	15,064,665	2,445	3,442	36	0.242	0
55	Hefei	CN	6,144,217	810	8,993	156	0.233	3
56	Vienna	AT	2,482,579	655	8,085	208	0.233	−3
57	Montréal	CA	3,601,300	784	6,746	205	0.225	−1
58	Barcelona	ES	5,186,198	399	5,887	253	0.206	4
59	Melbourne	AU	4,612,887	396	8,150	189	0.206	2
60	Brussels–Antwerp	BE	4,280,756	659	6,421	187	0.204	0
61	Changchun	CN	3,598,378	494	12,659	25	0.196	10
62	Milan	IT	4,533,097	572	7,290	158	0.196	4
63	Frankfurt am Main	DE	3,822,101	1,405	4,594	78	0.194	2
64	Hamburg	DE	2,449,199	654	4,701	207	0.193	5
65	Shanghai–Suzhou	CN	47,978,460	944	4,737	145	0.189	−2
66	Houston	US	6,541,974	1,169	3,527	138	0.189	−2
67	Jinan	CN	4,172,898	409	11,172	54	0.185	6
68	Dallas	US	4,393,733	728	2,231	232	0.180	−1
69	Warsaw	PL	2,729,838	187	8,442	156	0.179	−1
70	Nagoya	JP	9,012,207	1,785	2,292	14	0.169	2
71	Phoenix	US	3,321,985	610	2,687	211	0.167	−1
72	Xiamen	CN	3,422,342	671	6,339	94	0.165	5
73	Zhenjiang	CN	2,847,239	393	9,952	42	0.164	6
74	Rome	IT	3,513,531	274	9,037	65	0.154	2
75	Manchester	GB	2,963,664	316	3,876	199	0.154	0
76	Madrid	ES	6,688,899	242	5,990	151	0.152	−2
77	Harbin	CN	4,715,168	82	11,939	9	0.149	1
78	Dalian	CN	3,650,949	204	10,134	24	0.144	2
79	Tianjin	CN	8,309,384	159	8,421	43	0.129	3
80	Macau–Zhuhai	CN	3,566,054	785	1,924	101	0.125	1
81	Fuzhou	CN	3,796,807	148	7,861	40	0.120	n.a.
82	Ningbo	CN	4,504,119	267	3,913	117	0.115	5
83	Bengaluru	IN	16,651,165	316	1,038	174	0.110	0
84	Cologne	DE	9,664,718	644	3,405	49	0.109	0
85	Busan	KR	4,091,691	541	3,499	64	0.109	1
86	Zhengzhou	CN	5,614,897	122	7,464	27	0.108	4
87	Chongqing	CN	9,701,978	144	6,201	38	0.099	1
88	Tehran	IR	7,852,773	52	7,479	14	0.097	−3
89	Taipei–Hsinchu	TW*	11,764,671	326	4,805	37	0.097	0
90	Shenyang	CN	6,366,632	94	6,869	17	0.095	1
91	Moscow	RU	14,259,861	124	4,302	22	0.069	1
92	Riyadh	SA	7,717,605	21	3,244	54	0.062	n.a.
93	Istanbul	TR	12,565,101	197	2,530	38	0.061	0
94	Kuala Lumpur	MY	9,164,217	57	2,245	55	0.054	0
95	São Paulo	BR	18,737,034	36	1,268	85	0.054	1
96	Delhi	IN	31,258,382	39	1,195	85	0.053	−1
97	Chennai	IN	11,702,174	133	1,992	34	0.048	1
98	Mumbai	IN	24,905,119	91	671	69	0.044	−1
99	Mexico City	MX	16,887,198	14	1,206	39	0.032	0
100	Cairo	EG	23,856,295	7	1,118	20	0.022	0

Note: Economy codes are based on WIPO Standard ST.3 two-letter codes for the representation of states, other entities and organizations. TW* refers to Taiwan Province of China.

Source: WIPO Statistics Database, June 2026.

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