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*2024 Rankings Showcase Acceleration of R&D Pursuits: Waste Mitigation Inventions Flourished Last Year. Creating Non-Traditional Protein and Manipulating RNA Viruses Also Appear on the Top 10 Fastest Growing Technologies, According to Annual Patent Study by IFI CLAIMS.*

**New Haven, Conn., Jan. 14, 2025**—After four years of decline, U.S. patent grants headed upward, rising 3.8% from calendar year 2023 to 324,043 and Samsung retained the top spot for the third year in a row, according to [IFI CLAIMS Patent Services](#) the world's most trusted patent data source.

[IFI CLAIMS Patent Services](#) is a [Digital Science](#) company that compiles and tracks data from the U.S. Patent and Trademark Office (USPTO) and other patent-issuing agencies around the globe. IFI translates its world-leading data into an annual [U.S. Top 50](#) and [Top 10 Fastest Growing Technologies](#) patent ranking, providing valuable insights into companies' R&D activity.

In addition to grants being up, [U.S. patent applications were at an all-time high](#), up 3% from 418,111 in 2023 to 430,625 in 2024, an indicator the overall U.S. innovation economy is stronger than ever.

This year, contract chip maker TSMC stepped into second place, ahead of Qualcomm, which moved down to third—according to IFI's [2024 U.S. Top 50 Ranking](#). Apple and Huawei rounded out the top five, all ahead of IBM, which slipped to eighth place. IBM previously held the top spot for 29 consecutive years, but the company adopted a more selective patenting strategy and [was unseated by Samsung two years ago](#).

"It's good to see patent grants heading in the right direction again," said Ronald Kratz, CEO of IFI CLAIMS Patent Services. "Grants had been sinking since the start of the pandemic, likely because of the backlog of unexamined patents piling up. The USPTO has been hiring more examiners to deal with the accumulation, so it looks like that's having a positive effect." The USPTO backlog grew to 813,000 unexamined applications in 2024, up from

750,000 in 2023. Before COVID, the buildup was 540,000.

## Summing Up the U.S. Top 50 Rankings

Samsung stayed on top and managed to grow its patent count year over year, from 6,165 in 2023 to 6,377 in 2024, a rise of 3 percent. In fact, of all patents granted in the U.S. last year, Samsung took nearly 2 percent of the pie. TSMC climbed a rung in the ranking, bringing in 3,989 patents compared to 3,687 in 2023, an improvement of 8 percent. Qualcomm, last year's previous second place finisher, slipped a notch this year with an 11 percent decline in grants from 3,854 to 3,422. Apple scaled three places, landing in fourth this year. Google also climbed three spots to tenth place. Meanwhile, the much-followed patent stalwart IBM ticked down another four spots in 2024 but remains in the top 10.

The biggest gainers on the [Top 50](#) all hail from Asia: Changxin Memory Technologies (+57 places), Tencent (+54), and LG Energy (+37). As for the so-called Magnificent Seven, the tech companies Alphabet, Amazon, Apple, Microsoft, Meta, Nvidia, and Tesla, which continued their magnificent stock run in 2024, only the first four had enough patents to make the Top 50 and the latter three were conspicuously absent.

## U.S. Companies Granted Fewer Patents

Although American companies won the highest number of patents (143,382), the majority of U.S. patents (56%) were earned by firms outside of the U.S.: Japanese companies were awarded 43,364 patents, placing the country in second place, followed by China (28,258), South Korea (24,115), and Germany (14,044). Of the top 10 countries in patents granted, eight saw their numbers tick up. China, by far, rose the most: 32 percent more than 2023; Switzerland saw the second highest surge in growth, up 21 percent. Only the U.S. and Taiwan dropped, by 4 percent and 5 percent respectively.

## Fastest Growing Technologies Don't Go To Waste

IFI's Top 10 Fastest Growing Technologies ranking is based on patent applications—a better proxy than grants for technologies that are currently progressing because the lag time is significantly shorter.

The fastest growing technology in 2024 is operating or servicing cells, which rose more than

27 percent from 2020-2024, a technology that is related to electrolytic methods. This is the first year this technology has appeared on the list. But the most remarkable aspect of this year's ranking is that three of the Top 10 are taken up by technologies that seek to diminish waste: reclaiming non-ferrous metals (CAGR 26.2%), recovery of waste materials (CAGR 26.1%), and destroying solid waste (CAGR 17.7%). Clearly, companies inventing in these areas believe there are future profits to be had for innovations that make the world more sustainable. Another technology along the theme of sustainability that is growing quickly: working up protein from non-traditional sources (CAGR: 22.6%), a necessity as the global population grows.

"Despite all the market's attention on AI, we saw technologies like machine learning, which underpins artificial intelligence, slope downward," said Kratz. "But we're not surprised by that. Those were the fast growers that preceded the present AI bonanza and have been on our list in the years leading up to it. That's why investors should be paying attention to growing patent classes. It helps them get ahead of the curve."

To view the report, visit the [2024 Top 10 Fastest Growing Technologies](#).

Patent activity provides valuable insight into companies' R&D activity for researchers, analysts, and investors. It speaks to productivity, technological efficiency and IP strategy, and frequently reveals technology trends and the competitive landscape within various industries. Often the true value of a company lies with its intellectual properties, so examining patent assets is a key tool in gauging the intangible assets of publicly traded companies.

To create your own analysis, visit the [IFI CLAIMS Live 1000](#), a free tool which uses data from the top 1000 companies that received patents across multiple countries and patent jurisdictions. The tool shows live data and offers interactive features that allow users to create and sort their own lists using a variety of filters.

## **About IFI CLAIMS Patent Services**

IFI CLAIMS Patent Services uses proprietary data architecture to produce the industry's most accurate patent database. The CLAIMS Direct platform allows for the easy integration of applications, other data sets, and analysis software. Headquartered in New Haven, Conn., with a satellite office in Barcelona, Spain, IFI CLAIMS is part of Digital Science, a digital research technology company based in London. For more information, visit

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