Apple's growing patent portfolio offers clues about future products

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A computer mouse that doubles as a scanner. A coating that keeps gadgets safe and dry even in the event of a spill. And a smartphone that rotates like a cat midair to avoid landing on its pretty glass face.

You may not see them on shelves anytime soon, but they are among the inventions that Apple protected in 2014 as it took in a bumper crop of new patents. The U.S. Patent and Trademark Office granted Apple 2,003 utility patents, which recognize new and useful processes and machines. That's a 13 percent increase over 2013 and more than triple the company's 2010 haul, according to IFI Claims, a patent analysis firm. The steady increase in patents comes as Apple is doubling down on

research and development, pouring $6 billion into its labs in fiscal year 2014, which ended in September. The investments suggest the company is laying the groundwork to find its next lucrative products, recognizing that it can't coast if it wants to stay in investors' good graces, Gartner analyst Van Baker said.

"When you're that big, and you want to continue to grow at a rate that the market is going to reward, you have to expand your business," he said.

Although companies commonly patent ideas they do not ultimately use, the evolving makeup of Apple's portfolio points to spaces the company may be mining for future growth. Among other areas, the company has amassed more intellectual property related to television, a household staple ripe for reinvention, and cybersecurity, one of the tech industry's greatest headaches after a series of worrisome hacks.

The tech titan's burgeoning patent portfolio mirrors a shift underway in Silicon Valley and across the globe as companies worldwide are racing to protect nearly everything their engineers come up with, said Larry Cady, vice president of product marketing at IFI Claims. Grants climbed more than 8 percent to cross the 300,000 threshold for the first time in 2014, with many companies besting their records. Apple ranked 11th on IFI's list of top patent recipients and, in the Bay Area, second only to Google, which took eighth place with 2,566 patents in 2014, up nearly 39 percent from the previous year. IBM brought home the most patents, as it has for 22 years running, and valley stalwarts such as Hewlett-Packard and Cisco also showed solid gains, upping their tallies by 16 percent and 24 percent, respectively.

While Cady says many companies are investing more in research and development, he suspects they are also building their portfolios with an eye toward the courtroom, where they can use their patents as either a

sword to try to knock out competing products or a shield against such attacks. Cady thinks it's more than coincidental that Apple, Google and Samsung - the three key players in a series of high-stakes patent trials over smartphone technology that have been unfolding in San Jose federal court - are among the top patent recipients this year.

"If you can't beat them, join them," David Maizenberg, who consults on intellectual property matters, said of the patent race.

A patent gives a company the right to use an invention exclusively for a limited period of time. But the trade-off is that the firm must offer up a glimpse of what it is working on, which is notoriously hard to come by at Apple headquarters.

A spokesman for Apple declined to comment on the company's patents.

According to data supplied by IFI, the types of technology for which Apple won the most patents in 2014 were computer graphics, mobile communications and computer software. That suggests the company is continuing to focus on its strengths, such as the powerhouse iPhone, which drives more than half its sales.

But the company also has steadily earned more patents related to television, bringing home 73 in 2014, up from 28 in 2012 and a mere eight in 2011, according to IFI. That may be good news for Apple fans and investors who have long been waiting for the company to reimagine the television set. One patent granted in December describes technology that would stream content simultaneously on a fixed device such as an Apple TV and a portable gadget such as a smartphone, letting users leave their living rooms to grab snacks without missing a moment of their favorite shows. Another patent describes a new-age wand that users would wave to pick shows, rather than clicking old-fashioned remotes.

The company's patent portfolio also suggests a growing interest in security, with grants related to information security climbing 44 percent to 39 patents and grants related to cryptography climbing 25 percent to 15 patents, according to IFI. The company must keep security top of mind as it designs its gadgets, Baker noted.

"It's an important consideration in mobile devices because we're living in a world where there are more and more threats in terms of malware, cyberespionage, identity theft and hacks," he said.

IFI tracks utility patents, the most common type of award granted by the patent office.

To be sure, patents are an imperfect predictor of future products, often revealing more about the breadth of engineers' imaginations than the next gadgets they plan to build.

"Sometimes companies are just covering themselves for research they've invested in, even though it's not really in the product road map," Cady said.

But when it comes to Apple, the faintest possibility of a new device is enough to cause investors to sit up and take notice. Patently Apple, a blog that tracks patent filings from Apple, recently spotted that the company had earned a patent for a wearable video camera that sounded a lot like GoPro's specialty. The action-camera maker's stock sank about 12 percent on the news.

Despite the threat some perceive to GoPro, many ideas Apple pitched to the patent office last year don't seem ready for market. One patent the company earned described an elaborate system to protect mobile phones when they fall. Sketches show a smartphone using sensors to change its orientation so it lands on a metal side and deploying jets, fans and gas

canisters to slow its descent. Meanwhile, particularly delicate parts of the device such as the screen and home button would retract before impact.

Furthering the bid for an indestructible iPhone, Apple also landed a patent for a coating that would cause moisture to form beads, posing less danger to delicate electronics. The company also dreamed up creative accessories for the Mac. One patent covers a computer mouse that uses a sensor to capture the images it glides over and then displays them on its face.

In other instances, Apple appeared to be thinking further outside the bounds of its current product lineup. The company won a patent for a display that would allow users to view real-world objects with information overlaid, perhaps telling tourists more about the sites they're glimpsing through the windows of a bus.

Regardless of what Apple has cooking in its tightly veiled labs, experts say it is encouraging to see patent grants and R&D spending on the rise.

"I take it as a strong indication that innovation is alive and well at the company," said Stephen Haber, a senior fellow at Stanford University and the Hoover Institution.

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