Global Robotics Patents: The Patent Wars!

Patent activity is a useful indicator of technological progress and innovation in robotics. “Between 2005 and 2019, 72,618 robotics patents were granted worldwide.” Who is leading, who is on the rise, and who are the also-rans?

In other words, the patent wars! Who’s winning? Let’s take a look.

Georgetown University’s The Center for Security and Emerging Technology is out with its 2021 Global Overview and Trends in Robotics Patents. Covering the years 2005 to 2019.

The Center uses a wide net to cover robotics patents filed across 88 countries, using databases from the U.S. Patent and Trademark Office, the European Patent Office, and the World Intellectual Property Organization, known as WIPO.

“China has become the clear global leader in the total number of robotics patents issued, says a recent article from NextGov, “with nearly triple the number of robotics patents granted per year as the United States.”

The nonpartisan think-tank found China accounted for more than 25,000, or almost 35% of the global robotics patents…nearly three times more than the 9,500 robotics patents for the U.S. The U.S. ranked fourth among nations, coming in behind China’s 25,000, Japan’s 15,000 and Korea’s 11,000 in total number of robotics patents issued since 2005.

“While the U.S. once dominated the global share of robotics patents issued,” says the report, “China reversed that trend a decade ago with its Made in China 2025 plan and is not slowing down its pace of robotics innovation. In 2019, China captured 5,400 robotics patents, or a 43% share of global robotics patents; conversely, the U.S. issued 2,100, or 17% of global robotics patents.

The report further states: “China tops the chart in patents for industrial robotics, transportation, humanoid/ exoskeleton, agriculture, underwater applications, and education. The United States leads in robotics patents in areas such as aerospace, medical, military/security, and telepresence, as well as robotics patents with AI features.

For the European Union, Germany leads with just under 5% with 3,439; the European Patent Office at 942 has a 1.3% share of the total.

The report’s authors argue changes in the ways the U.S. federal government addresses emerging technologies will be critical to the U.S. fostering more robotics innovation.

Here's an interesting note: “The study indicates China [partly] grew its patent output by offering incentives to investors, companies and universities, including decreased tax rates for companies with a certain number of robotics patents.”

For a PDF download of the entire report, Global Overview and Trends in Robotics Patents, please see the current issue of Asian Robotics Review for November’s This Is Robotics: Radio News contents.

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