U.S.-based inventors lead world in nanotechnology patents: study

Erin Geiger Smith, Reuters

(Reuters) - Inventors based in the United States led the world in nanotechnology patent applications and grants in 2012, according to a new study by law firm McDermott Will & Emery.

Nanotechnology involves manipulating matter that's measured at the tiny "nanometer" length level. The diameter of a human hair is between 40,000 and 60,000 nanometers, said Valerie Moore, a patent agent and one of the authors of the study.

Nanotechnology patents come into play in everything from aerospace to medicine to energy, the study noted. For example, the technology can be used to incorporate antibacterial material into wound dressings, to increase the strength of car parts while decreasing their weight, and to enhance paint colors.

U.S.-based inventors accounted for 54 percent of the nanotechnology patent applications and grants reviewed in the study, followed by South Korea [1] with 7.8 percent, Japan [2] with 7.1 percent, Germany [3] with 6.2 percent and China [4] with 4.9 percent.

The study also looked at the geographic location of the owner of the nanotechnology patents and proposed patents. If an inventor works in the Silicon Valley office of South Korea's Samsung Electronics [5] Co, for instance, the U.S. is home to the invention, but the South Korean employer might own the patent.

McDermott's intellectual property practice includes more than 200 attorneys and patent agents, and is one of the top ten law firms for nanotech patent and applications filings, according to information provided by the firm.

McDermott partner Carey Jordan noted that the percentage of patents issued to U.S.-based entities is not quite as high as the 54 percent of nanopatents with U.S.-based inventors. About 45 percent of the nanotechnology patents in the study were assigned to U.S.-based entities.

The study examined published U.S. patent applications, patents granted by the U.S. Patent and Trade Office, and published international patent applications that had the term "nano" in the claims, title, or abstract. Nanopatent applications were included to best quantify innovation occurring in nanotech, the study's authors said.

The number of nanotechnology patents has grown continuously since the early 2000s, the study said. Between 2007 and 2012 the total number of U.S. patent applications, U.S. granted patents and published international patent applications

grew from about 14,250 to almost 18,900.

The United States, the European Union, as well as Japan [6] and South Korea, have increased funding for nanotechnology education and research since 2000, the study said.

Computer and electronics [5] companies garnered the most patents, with International Business [7] Machines Corp and Samsung topping the list. The fields of chemistry and biological sciences, which include medicine and agriculture, were next in terms of the number of nanotechnology patents.

Other leaders in technology patent innovation include the University of California, Xerox Corp, the Massachusetts Institute of Technology, and 3M Co.

(Reporting By Erin Geiger Smith; Editing by Nick Zieminski)

(This story was corrected to fix dateline and name of law firm in the first paragraph)

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