

Contact:

Peter Hebert
Lux Research, Inc.
646-723-0702
peter.hebert@luxresearchinc.com

Clay Perschall
Foley & Lardner, LLP
312-832-4510
cperschall@foley.com

NANOTECH PATENT BATTLES ARE BREWING; SOME ARE WORTH FIGHTING

Comprehensive review of 2,738 nanotech patents shows which markets to focus on – and which to abandon

San Francisco, CA – July 25, 2006 – As companies, universities, and government entities explore the applications of nanomaterials, they have gone to the patent office in droves – yielding a continued increase in nanotech patents, which totaled 4,996 U.S. issued patents through 2005. With so many patents, legal saber-rattling over rights to intellectual property has already begun. Some contentious fields are worth the time and expense of legal defense while others don't present enough market opportunity to justify the outlay, according to a new report from Lux Research in collaboration with Foley & Lardner, LLP, entitled, "Nanotech IP Battles Worth Fighting."

The report finds that the rate of new nanotech patent issuances stalled at 4% in 2005 after exceeding 20% in the last few years. At the same time, however, the number of public patent applications for nanotechnology continued to increase, growing by 52% to 2,714 outstanding nanotech patent applications. What do these figures indicate? A bottleneck at the USPTO is limiting inventor's ability to secure intellectual property rights. Crowded patent domains with overlapping claims have pushed the pendency rate – the time from the submission of a nanotech patent application to the issuance of a patent – to nearly four years on average up from two and half years in 1993.

"With the number of pending public nanotech patent applications in 2005 outnumbering issued nanotech patents by more than three to one, there is a wave of innovation that the USPTO has yet to process," said Lux Research analyst Vahé Mamikunian. "When the dust settles from this influx of inventions, many patent holders will be wondering just how valuable their innovations are in densely crowded and overlapping areas."

"The flip side of this trend is that the increasing numbers of patents in key areas of nanotech is opening the door to new licensing opportunities, as patent owners seek to consolidate groups of patents needed to access those key areas," says Stephen Maebius, an IP Partner in the law firm of Foley & Lardner LLP.

Lux Research and Foley & Lardner, LLP reviewed all issued U.S. patents relating to eight classes of nanomaterials: 1) carbon nanotubes, 2) metal nanoparticles, 3) aerogels, 4) ceramic nanoparticles, 5) dendrimers, 6) quantum dots, 7) fullerenes, and 8) nanowires. The analysis reviewed 2,738 patents in total, covering 52,148 relevant claims that cross seven application categories. Through an exhaustive manual review, each claim in each patent was categorized by type and application to assess the "white space" and "vulnerability" for nanomaterial patents in each application category. The results of this assessment were then mapped against the market potential for each application category to identify which applications are worth fighting over and which represent a low opportunity for payoff. Among the report's highlights:

- Carbon nanotube and quantum dot applications in electronics, where many crowded and vulnerable patents indicate a high likelihood of legal wrangling, are battles worth fighting. The large addressable markets relevant to these nanomaterials justify the cost of navigating the unfavorable patent outlook.
- In healthcare/cosmetics applications nanomaterials with crowded or vulnerable patent landscapes like dendrimers, ceramic nanoparticles, and metal nanoparticles represent battles worth fighting because of the broad applicability of these materials to a number of large addressable markets.

- Hidden opportunities – characterized by a favorable patent outlook and large market potential – occur in energy applications of ceramic nanoparticles like high-performance cathodes in the \$48 billion battery market, and in electronics applications of nanowires which could keep Moore’s Law going in the next decade.

The report “Nanotech IP Battles Worth Fighting” is available immediately to clients of Lux Research’s Nanotechnology Strategies advisory service. For information on how to become a client, contact Rob Burns, Vice President of Sales, at (646) 723-0708.

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