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## OVERHYPED TECHNOLOGY STARTS TO REACH POTENTIAL: NANOTECH TO IMPACT \$3.1 TRILLION IN MANUFACTURED GOODS IN 2015

Lux Research report finds pervasive use of nanotechnology in manufactured products

New York, NY – July 22, 2008 – Much like the Internet, nanotechnology was over-hyped earlier this decade, and some high profile failures have left manufacturers and investors skeptical. However, a new report from Lux Research finds that in reality, nanotechnology has become pervasive in a wide range of industries, with \$147 billion worth of nano-enabled products produced in 2007 – a figure set to grow to \$3.1 trillion in 2015.

“Nanotech isn’t a new market or industry – it’s an enabling technology that improves many types of products,” said Jurrón Bradley, Ph.D., Senior Analyst at Lux Research. “For example, you find it in coatings boosting the efficiency of automobile engines, in nano-enabled finishes protecting electronic devices, and nanoparticulate reformulations that make cholesterol-reducing drugs more effective. These innovations aren’t always visible to consumers, but they improve products and boost margins. That’s why nanomaterials’ use is only going to keep growing.”

To gauge nanotech’s commercial impact, Lux Research used its value chain framework to measure and forecast adoption across three major industry sectors – manufacturing and materials, electronics and IT, and healthcare and life sciences – in the U.S., Europe, Asia/Pacific, and the rest of the world – from 2004 to 2015. The nanotechnology value chain begins with *nanomaterials*, nanoscale bits of matter with unique size-dependent properties; these nanomaterials are then incorporated into *nanointermediates* such as coatings or memory chips, which are in turn used to make *nano-enabled final products* ranging from airplanes to cell phones to medical diagnostics. This forecast draws on data from over 1,000 primary interviews Lux Research analysts conduct with technology developers annually, as well as a new survey of 31 leading corporations active in nanotechnology.

The report, entitled “Nanomaterials State of the Market Q3 2008: Stealth Success, Broad Impact,” concludes that:

- The materials and manufacturing sector saw the greatest impact in 2007 – incorporating it in \$97 billion in products across the value chain – as nanotech made its way into intermediates like coatings and composites for products like automobiles and buildings. Electronics followed at \$35 billion from emerging nanotech applications in fields like displays and batteries, while healthcare trailed with \$15 billion in revenue, driven by pharmaceutical applications.
- Electronics applications of emerging nanotechnology will gain ground through 2015, growing at a 51% compound annual growth rate (CAGR) to reach \$940 billion, while healthcare and life sciences will grow at 46% annually to reach \$31 billion. However, the materials and manufacturing sector will remain predominant, growing at 45% to reach \$1.8 trillion worth of product revenue incorporating emerging nanotech.
- Nanotech’s greatest economic impact is currently in the U.S., where companies incorporated nanotech into \$59 billion in products in 2007; Europe followed at \$47 billion, Asia/Pacific accounts for \$31 billion and the rest of the world for \$9.4 billion. However, Europe’s steeper CAGR of 48% will bring it to \$1.09 trillion by 2015, meeting the U.S.’s \$1.08 trillion; and Asia will remain in third place at \$717 billion.
- Nanotechnology R&D hit \$13.5 billion in 2007, up 14% from 2006. Global corporate R&D spending grew 23% to reach \$6.6 billion, passing government spending for the first time – and dwarfing VC investments.

“Nanotech’s broadening impact will touch more final product categories over the next four years,” noted Michael Holman, Research Director at Lux Research. “Past 2012, however, nanotech’s impact will primarily *deepen* as new nanotech innovations get incorporated into product categories that already make use of existing nanotech enhancements. It’s during this later time frame that more disruptive innovations like new types of nano-enabled memory chips will begin to make their presence felt.”

The 135-page report includes projections on the value of products incorporating nanotechnology across the value chain from 2004 to 2015, broken down by value chain stage, industry sector, and region. It offers a concise introduction to nanotechnology, as well as profiles of ten major nanomaterials, like carbon nanotubes and quantum dots, and ten major nanointermediates, like nano-enabled coatings and drug delivery systems. The report also includes a detailed analysis of nanotechnology funding from corporations, governments, and venture capitalists, as well as discussions of key issues such as environmental, health, and safety (EHS) issues, how large corporations are approaching nanotechnology, and the prospects for nanomaterials start-ups and other specialists.

“Nanomaterials State of the Market Q3 2008: Stealth Success, Broad Impact” is part of the Lux Research Nanomaterials Intelligence service. Clients receive: 1) State of the Market reports every six months; 2) ongoing technology scouting reports and proprietary data points in the weekly Lux Research Nanomaterials Journal; and 3) on-demand inquiry with Lux Research analysts. For information on how to become a client, contact John Schwartz at [john.schwartz@luxresearchinc.com](mailto:john.schwartz@luxresearchinc.com) or (646) 649-9582.

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