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Global study shows corporate R&D spending on the rise, but linkage between R&D investment and financial performance remains poor

- *Booz Allen study of top 1000 corporate R&D spenders shows three distinct strategies evident: Need Seekers, Market Readers and Technology Drivers*
- *Four Australian companies among top 1000 corporate spenders*
- *Best performers align R&D with corporate strategy, involve customers, look at market need*

Sydney, 17 October 2007 – Growth in R&D spending by the world's largest companies is accelerating but most are yet to master the art of converting research and development (R&D) investment into revenue and sales performance, according to the latest global innovation study by international management consulting firm Booz Allen Hamilton.

Booz Allen's annual Global Innovation 1000 study tracked the 1000 largest R&D spenders among publicly held companies worldwide in 2006, accounting for an estimated 84% of all corporate R&D expenditure globally.

R&D expenditure by the Global Innovation 1000 rose 9.8% in 2006, almost twice the growth rate of the previous five years. For the first time in five years this R&D spending matched the companies' combined total sales growth, with R&D as a percentage of sales stabilising at 3.8% in 2006. As in previous years Booz Allen found no correlation between the amount spent on R&D and corporate performance.

The 10 largest corporate spenders on R&D in 2006 were: Toyota, Pfizer, Ford, Johnson & Johnson, DaimlerChrysler, General Motors, Microsoft, GlaxoSmithKline, Siemens and IBM.

Australian companies in the Global Innovation 1000 were CSL Ltd (ranked 499 with spending of USD\$121m), BHP Billiton (ranked 714, USD\$76m), Aristocrat Leisure (ranked 742, \$72m) and ROC Oil (ranked 957, \$52m). Local companies just outside the top 1000 included Cochlear, Onesteel, Computershare, Amcor, Orica, Bluescope Steel, Telstra and Pacifica Group.

Booz Allen: Australian companies need to deploy R&D budgets wisely

Booz Allen's study follows the recent release of figures by the Australian Bureau of Statistics showing R&D spending by Australian companies grew 11.8% to AUD\$10.8 billion in 2005/06, led by the mining and manufacturing sectors and faster than the growth in R&D spending globally. Local corporate R&D expenditure as a percentage of GDP rose marginally from 0.97% to 1.04% in 2005/06, still well below the OECD average of 1.53%.

Sydney-based head of Booz Allen's innovation practice, Chris Manning, said the Global Innovation 1000 report showed the importance of Australian companies deploying often limited R&D budgets wisely for maximum effect.

"It's encouraging to see two new entrants into the Global 1000 - BHP Billiton and ROC Oil - and a growing cluster just outside, but the reality is few Australian companies are big enough to do R&D on a global scale," he said.

"But given that there is only a weak correlation between the quantum of R&D investment and performance, they are better off looking at the strategies successful innovators use and applying R&D funds accordingly. In Australia the most productive R&D often comes out of collaborative networks, sometimes involving Government and not-for-profit research groups," he said.

Key trends underpinning successful R&D evident

Booz Allen's Global Innovation 1000 study identified 118 companies - including Apple, Canon, eBay, Hutchinson, Samsung, Yahoo! and Australia's BHP Billiton - that in 2006 had outperformed their peers over the previous five years while spending less on R&D as a percentage of sales than their industry median over that time.

Dubbed 'high-leverage innovators', these companies attributed their success to an R&D strategy focused on the entire innovation value chain, from generating new ideas to product development and marketing. All emphasised the need to align innovation with overall corporate strategy, and to build their customers into the innovation process.

In almost all cases successful innovators pursued one of three R&D strategies:

- **Need Seekers** - Actively engage current and potential customers to shape new products, services and processes, and strive to be first to market with those products.
- **Market Readers** - Watch their markets carefully, but are more cautious, focusing largely on incremental change.
- **Technology Drivers** - Generate product ideas by deploying their technological skill and relying on unarticulated customer needs for product inspiration, rather than following the market or direct customer input, to drive both breakthrough innovation and incremental change.

"It is not the case that any one of these strategies is better than the other - different strategies will suit different types of companies. However, what is important is that a company's R&D strategy be aligned with its corporate strategy," Mr Manning said.

“Companies that align their corporate and innovation strategies demonstrate superior financial performance, with 40% higher operating income growth and twice the shareholder returns over the last three years than companies with strategies that are less well-aligned,” he said.

Other findings

Among other findings from the latest Global Innovation 1000 study:

- R&D spending among the Innovation 1000 ranges from the \$7.7 billion spent by Toyota to the \$47 million by Meidensha Corporation. The top 100 companies account for 64% of the total R&D spend of the Innovation 1000. Booz Allen estimates that the Innovation 1000 accounts for 84% of 2006 total global corporate R&D spending of \$540 billion, and 52% of all global R&D spending of \$879 billion, including government and not-for-profit R&D.
- Innovation 1000 companies headquartered in North America, Europe, and Japan account for 95% of total R&D spending in 2006. Companies headquartered in North America increased their absolute R&D spending by 13%, representing the largest source of dollar growth among the Innovation 1000. Companies headquartered in China, India and the rest of the developing world represented just 5% of overall corporate spending on R&D in 2006, but their five-year average growth rate suggests a desire to catch up quickly. China and India grew their 2006 spend by 25.7% over last year, in keeping with a five-year average rate of growth of 25%.
- Sales of the Innovation 1000 grew 10% to \$11.8 trillion in 2006, ensuring the overall ratio of R&D spend to sales of 3.8% seen last year was maintained. North American headquartered companies increased their lead in R&D intensity, spending 4.8% of sales on R&D, up from 4.6% last year, while Japanese headquartered companies spent 3.7% of sales and European headquartered companies spent 3.4%.
- R&D spending remains highly concentrated in a few large industries. More than two-thirds of the 2006 total was spent in just three industries: Computing & Electronics (29%), Health (22%), and Automotive (17%).
- Every industry with the exception of Automotive accelerated its pace of R&D spending in 2006, with Health leading the way with five-year average growth of 13%, followed by Software & Internet at 12%. Only the automotive industry spend grew at a slower rate over the last year (1.3%) than its five year historic growth rate (4.2%).

Mr Manning said analysis of the 2006 Global Innovation 1000 confirmed there was no statistically significant relationship between R&D spending and the primary measures of financial or corporate performance - sales and earnings growth, gross and operating profitability, market capitalisation growth, and total shareholder returns.

“We found that companies place an increased value on innovation, but more spending doesn’t necessarily lead to smarter spending or better results,” he said. “With thousands of new products released every year, companies must improve their innovation processes to succeed.”

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Booz Allen Hamilton Global Innovation 1000: Study Methodology

Booz Allen Hamilton identified the 1,000 public companies around the world that spent the most on research and development in 2006 (companies for which public data on R&D spending was available). Subsidiaries that were more than 50% owned by a single corporate parent were excluded because their financial results were included in the parent company's reports.

Booz Allen analyzed key financial metrics for each of the top 1,000 companies for 2001 through 2006 – sales, gross profit, operating profit, net profit, historical R&D expenditures, and market capitalization. In addition, total shareholder return was computed and adjusted for each company's corresponding local market total shareholder return.

Each company was coded into one of 9 industry sectors (or "other") according to Bloomberg's industry designations, and into one of five regional designations according to reported headquarters locations for each company. To enable meaningful comparisons across industries on R&D spending levels, Booz Allen indexed the R&D spending level and financial performance metrics for each company against the median R&D spending level for that industry.

To understand how innovation strategy affects performance, Booz Allen also surveyed a subset of companies on this year's Innovation 1000 list that spent a total of \$68 billion on R&D in 2006, the responses to which were analyzed using a variety of statistical methods.

The Global Innovation 1,000 study is available online at www.boozallen.com. For additional information, contact Karen Guterl, PR Manager, at guterl_karen@bah.com

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Booz Allen Hamilton has been at the forefront of management consulting for businesses and governments for more than 90 years. Providing consulting services in strategy, operations, organisations and change, as well as information technology, Booz Allen is the one firm that helps clients solve their toughest problems, working by their side to help them achieve their missions. With 19,000 employees on six continents, the firm generates annual sales of US\$4 billion. In 2007, for the third consecutive year, Fortune magazine named Booz Allen one of the "100 Best Companies To Work For".

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