RE$EARCH Infosource Inc.

CANADA'S TOP 100 CORPORATE R&D SPENDERS

**Canada's Top 100 Corporate R&D Spenders List 2007**
**Analysis**

## R&D Spending in the Doldrums

Research and development (R&D) spending by Canada's Top 100 Corporate R&D Spenders fell by a disappointing -3.8% in Fiscal 2006, to $11.4 billion from $11.9 billion in Fiscal 2005. This means that Top 100 spending has fallen in 3 of the last 5 years. Last year's decline occurred despite a modest 3.2% increase in corporate revenues (among 94 companies where revenue data were available). Falling R&D spending combined with increased revenues at these companies meant that research intensity – R&D spending as a percent of revenues – fell even faster, declining by -6.9%, to 3.5% overall compared with 3.7% in Fiscal 2005.

The underlying picture is somewhat worse. When R&D giant Nortel Networks is removed from the equation, the performance of the remaining 99 firms weakens. R&D spending at the other 99 leading companies declined by -4.2%, and their research intensity fell to 2.9%, without the moderating effect of Nortel's results. Nortel's revenues expanded by 1.6%, but its R&D spending declined by -2.2%, which was less than the Top 100 decline. Nortel's research intensity fell to 17.0% from 17.6%, still much more than the all-industry average. Nortel's result lessened the overall decline in Top 100 performance. Second place performer BCE Inc. experienced a -7.3% drop in revenues in Fiscal 2006, but lowered R&D spending by -13.0%. BCE's spending dragged down the Top 100 overall result; without BCE, R&D spending at the other 99 companies' dropped by -2.4%, compared with -3.8% with BCE included.

Fiscal 2006 R&D spending increased or remained the same at 56 of the Top 100 companies, and dropped at the other 44 firms. This was a very different result from 2005, when spending increased among 69 of the Top 100 firms and declined at only 30 companies (in Fiscal 2005, one company was newly formed).

## The $100 Million Club

Fiscal 2006 saw 24 companies join RE$EARCH Infosource's $100 Million Club, an elite group of firms that spent over $100 million each on R&D in Fiscal 2006. The $100 Million Club includes a broad blend of technology, pharmaceutical/biotechnology, manufacturing, services and resource companies. The Club includes 15 Canadian companies and 9 foreign subsidiaries. New to the $100 Million Club is Abitibi Consolidated ($150 million of R&D spending). Returning to the Club are EnCana Corporation, Sanofi Pasteur and Tembec.

Club members accounted for 73% of all Top 100 spending, the same as in Fiscal 2005. Combined revenues among the Club members increased by a healthy 7.1%, which was better than the 3.2% total increase for the 94 Top 100 firms that reported revenues. However, Club members' total R&D spending dropped by -3.6%; disappointing, but less than the overall Top 100 decline of -3.8%. Of some concern is that despite strong revenues, R&D spending dropped at 11 of the 24 leading firms and increased or remained the same at 13 companies.

| The $100 Million Club | | |
|---|---|---|
| **2006 Rank** | **Company** | **Industry** |
| 1 | Nortel Networks | Comm/telecom equipment |
| 2 | BCE | Telecommunications services |
| 3 | Magna International | Automotive |
| 4 | Pratt & Whitney Canada (fs) | Aerospace |
| 5 | ATI Technologies + | Computer equipment |
| 6 | IBM Canada (fs) | Software and computer services |
| 7 | Alcan | Mining and metals |
| 8 | Atomic Energy of Canada | Energy/oil and gas |
| 9 | Bombardier | Aerospace |
| 10 | Alcatel-Lucent (fs) | Comm/telecom equipment |
| 11 | Research In Motion | Comm/telecom equipment |
| 12 | Apotex. | Pharmaceuticals/biotechnology |
| 13 | GlaxoSmithKline Canada (fs) | Pharmaceuticals/biotechnology |
| 14 | Ericsson Canada (fs) | Comm/telecom equipment |
| 15 | Abitibi-Consolidated | Forest and paper products |
| 16 | EnCana | Energy/oil and gas |
| 17 | Pfizer Canada (fs) | Pharmaceuticals/biotechnology |
| 18 | Cognos | Software and computer services |
| 19 | TELUS | Telecommunications services |
| 20 | Tembec | Forest and paper products |
| 21 | Merck Frosst Canada (fs) | Pharmaceuticals/biotechnology |
| 22 | Biovail | Pharmaceuticals/biotechnology |
| 23 | Sanofi Pasteur (fs) | Pharmaceuticals/biotechnology |
| 24 | PMC Sierra (fs) | Electronic parts and components |

fs = Foreign subsidiary (includes R&D expenditures for Canadian operations only)
+Not current name

## Industry Performance

Information technology companies in 5 sub-sectors continued to dominate Top 100 spending, accounting in total for 53% of the Top 100 spending total. Twelve firms in the Communications/telecom equipment sub-sector (which includes Nortel Networks) led the way, accounting for 26% of the Top 100 total, with $3 billion in spending in Fiscal 2006.

The next highest spending sector was Pharmaceuticals/biotechnology, in which 31 companies invested $1.89 billion, accounting for 17% of the total Top 100 R&D spending, up from $1.87 billion in Fiscal 2005. The Pharma/bio leader was Canadian company Apotex, for which RE$EARCH Infosource reports on worldwide spending ($178.8 million). Some top multinational R&D spenders in this sector, where we include only in-Canada R&D spending were GlaxoSmithKline Canada ($177 million), Pfizer Canada ($131.8 million), Merck Frosst Canada ($114.1 million) and Sanofi Pasteur ($105.4 million). The important contribution of the Pharma/bio sector becomes more apparent when Nortel's spending is omitted from the Communications/telecom equipment sector total. Then, the Pharma/bio sector accounts for 20% of total Top 100 R&D spending and Comm/telecom equipment drops to 9%.

| Top 100 – Leading Industries | |
|---|---|
| **Industry** | **R&D Spending (% of Total)** |
| Communications/telecom (12) | 26 |
| Pharmaceuticals/biotechnology (31) | 17 |
| Telecommunications services (3) | 14 |
| Aerospace (5) | 8 |
| Energy/oil and gas (13) | 8 |
| Software and computer services (8) | 6 |
| Automotive (1) | 6 |

R&D spending increased in 6 of the 11 leading sectors represented by the Top 100 performers, and declined in the other 5 sectors. However, the rate of decline was sharper than the rate of increase. The best-performing sector was Forest and paper products, where 3 firms expanded their R&D spending by 16.2% in total.

## The Top 10 R&D Intensive Firms

Fiscal 2006 was not a good year for research intensity. Only 37 of 90 included companies increased their research intensity (R&D spending as a percent of revenues), compared with 47 companies in 2005. Six of the 10 most research-intensive companies were in the Pharma/bio sector. These firms are typically startup or early stage companies that are investing heavily in new products without a corresponding revenue stream.

| Top 10 Research Intensive Companies* | | | |
|---|---|---|---|
| **2006 Rank** | | **Company** | **R&D as % of Revenue** |
| **Research Intensity** | **Overall** | | |
| 1 | 42 | Neurochem | 1,833.7 |
| 2 | 93 | ProMetic Life Sciences | 608.2 |
| 3 | 80 | Isotechnika | 539.5 |
| 4 | 84 | Resin Systems | 501.3 |
| 5 | 91 | Azure Dynamics | 305.0 |
| 6 | 56 | Cardiome Pharma | 210.2 |
| 7 | 60 | Westaim | 141.4 |
| 8 | 79 | MethylGene | 139.7 |
| 9 | 87 | Labopharm | 117.9 |
| 10 | 41 | Ballard Power Systems | 104.9 |

*$1 million or more of revenue

## Gainers and Losers

Fiscal 2006 saw strong gains in R&D spending among 4 companies in the Energy/oil and gas sector. Western Oil Sands led all firms in growing its R&D spending by 347.2%. Firms such as Penn West Energy (68.4%), Syncrude (53.0%) and Petro Canada (47.8%) also reported outstanding R&D growth.

| Top 10 Companies by R&D Growth | | | |
|---|---|---|---|
| 2006 Rank | | Company | % Change 2005-2006 |
| R&D Growth | Overall | | |
| 1 | 76 | Western Oil Sands | 347.2 |
| 2 | 65 | BioMS Medical | 232.8 |
| 3 | 85 | MEGA Brands | 149.2 |
| 4 | 84 | Resin Systems | 146.4 |
| 5 | 96 | MOSAID Technologies | 97.3 |
| 6 | 50 | Cascades | 71.5 |
| 7 | 94 | Penn West Energy | 68.4 |
| 8 | 35 | Syncrude Canada | 53.0 |
| 9 | 45 | Aspreva Pharmaceuticals | 48.0 |
| 10 | 66 | Petro-Canada | 47.8 |

Not all companies fared well in R&D performance last year. A number of brand name firms in their sector witnessed substantial declines in R&D spending.

| Bottom 10 Companies by R&D Growth | | | |
|---|---|---|---|
| 2006 Rank | | Company | % Change 2005-2006 |
| R&D Growth | Overall | | |
| 1 | 100 | Xstrata (fs) | -58.4 |
| 2 | 67 | Vasogen | -54.3 |
| 3 | 57 | Zarlink Semiconductor | -46.2 |
| 4 | 41 | Ballard Power Systems | -35.2 |
| 5 | 29 | Suncor Energy | -31.5 |
| 6 | 40 | MDS | -31.0 |
| 7 | 38 | QLT | -29.2 |
| 8 | 36 | CVRD Inco (fs) | -27.9 |
| 9 | 77 | Husky Injection Molding Systems | -26.6 |
| 10 | 17 | Pfizer Canada (fs) | -26.3 |

fs = Foreign subsidiary (includes R&D expenditures for Canadian operations only)

## Looking Ahead

Unlike the previous year, Fiscal 2006 was not a good year for corporate research. For Fiscal 2005 we reported *"Spending was up overall and two-thirds of the Top 100 companies expanded their commitment to research"*. What a difference 365 days make. Fiscal 2006 R&D spending increased or remained the same at 56 of the Top 100 companies, and dropped at the other 44 firms. But overall spending declined by -3.8% against a 3.2% growth in revenues.

Manufacturing aside, the Canadian economy was firing on all cylinders – unemployment at record lows and strong corporate profits. What is going on with industrial R&D? Understandably, the tech bust of 2000-01 took the wind out of the sails of corporate R&D spending, not only in Canada but also worldwide. However, that was 5 fiscal years ago. Subsequently, we have seen R&D spending drop in 3 of the last 5 years. Something more systemic is responsible for declining corporate R&D performance.

For one thing, the past 5 years have seen an increase in corporate mergers and acquisitions. Brand name Canadian companies have disappeared, and this surely does not bode well for R&D investment, as their new owners inevitably rationalize company-wide R&D spending. For another, economic growth is being driven by the oil & gas and mineral and metals sectors, industries that have traditionally low levels of R&D spending. And manufacturing – which is typically a hotbed of R&D investment – has been hit hard by the fall of the US dollar, squeezing profit margins and leaving fewer funds available for R&D, precisely at a time when more investment in innovation is required. Also, federal and provincial government support programs for corporate R&D are past their "best before" dates. We need a substantial rethink of our corporate innovation support programs, most of which were designed decades ago when circumstances were quite different.

Ultimately, though, responsibility for investment in research and innovation lies with corporate leaders. The evidence is that research investment has not been top of mind for them. In 2006, when money was cheap and plentiful, corporate attention appeared to be focussed on deal making rather than on organic business growth. Will a tightening of money markets and increased global competition refocus business owners and managers on their core business? Stay tuned.

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