

Canada's Top 100 Corporate R&D Spenders List 2009

Analysis

R&D Spending in the Doldrums

Corporate R&D spending remained essentially unchanged in Fiscal 2008 compared with the previous year. Spending on research by the Top 100 Corporate R&D Spenders totalled \$10.09 billion, a slight decline of -0.2% from Fiscal 2007. With Nortel Networks, Canada's perpetual but soon-to-be-extinct R&D leader removed from the equation, spending by the remaining 99 firms eked out a 1.9% increase.

Research intensity – R&D spending as a share of revenues – was 2.7% down from 3.2% the year before. Excluding Nortel's results research intensity was 2.3% compared with 2.7% the previous year. A sharp 12.3% growth in corporate revenues over the period amplified the decline in research intensity. (We calculated research intensity for the 94 firms that supplied income data.)

Overall, 59 companies achieved positive R&D growth, 40 firms spent less on research and one company was static. These figures are comparable with those in previous years.

The \$100 Million Club

In Fiscal 2008, 19 companies qualified for RESEARCH Infosource's \$100 Million Club – the elite group of firms that spent \$100 million or more on research. This is the same number of firms as in Fiscal 2007, but down from the 24 firms in Fiscal 2006. Among the Club members were 12 Canadian companies and 7 foreign subsidiaries.

Returning to the \$100 Million Club this year were TELUS, Open Text and CAE; and new to the Club was Aastra Technologies. Two former Club members fell off the list this year because their spending declined below \$100 million.

Among the 19 Club members, 12 companies increased their R&D spending, while 6 firms had negative R&D spending growth and 1 firm reported no growth.

The \$100 Million Club was dominated by 9 companies in the Information and Communication Technology sector. Next in prominence were 4 Pharmaceutical/biotechnology companies, followed by 3 firms in the Aerospace sector.

Club members accounted for 67% of total Top 100 companies' R&D spending (\$6.8 billion), the same share as in the year before.

The \$100 Million Club		
2008 Rank	Company	Industry
1	Nortel Networks	Comm/telecom equipment
2	BCE	Telecommunications services
3	Magna International	Automotive
4	Pratt & Whitney Canada (fs)	Aerospace
5	IBM Canada (fs)	Software and computer services
6	Research In Motion	Comm/telecom equipment
7	Atomic Energy of Canada	Engineering services
8	Alcatel-Lucent (fs)	Comm/telecom equipment
9	Apotex	Pharmaceuticals/biotechnology
10	sanofi-aventis Group (fs) ⁺⁺	Pharmaceuticals/biotechnology
11	TELUS	Telecommunications services
12	Bombardier	Aerospace
13	GlaxoSmithKline Canada (fs)	Pharmaceuticals/biotechnology
14	Ericsson Canada (fs)	Comm/telecom equipment
15	Pfizer Canada (fs)	Pharmaceuticals/biotechnology
16	CAE	Aerospace
17	Open Text	Software and computer services
18	Aastra Technologies	Comm/telecom equipment
19	Hydro-Québec	Electrical power and utilities

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

⁺⁺includes sanofi-aventis Canada Inc. and Sanofi Pasteur Limited

Industry Performance

Eleven companies in the Communications/telecommunications equipment sector dominated Top 100 spending again this year. These firms accounted for 27% of total Top 100 spending, a slight 1.5% increase over Fiscal 2007. But if Nortel Networks' results are omitted, the remaining 10 Communications/telecommunications equipment firms posted an extremely strong 26.3% gain in their combined R&D spending over the period.

Next in total spending were 31 firms in the Pharmaceuticals/biotechnology sector, which among them accounted for 19% of total spending – similar to the previous year. Four companies in the Telecommunications services sector were responsible for 13% of Top 100 spending, but declined -9.6% from the year before.

Companies in 4 sectors – Engineering services (14.5%), Software and computer services (7.9%), Aerospace (5.6%) and Energy/oil and gas (4.1%) – showed strong or moderate gains in research spending, while their counterparts in other sectors had declines in their spending.

Top 100 – Leading Industries	
Industry	R&D Spending (% of Total)
Communications/telecom (11)	27
Pharmaceuticals/biotechnology (31)	19
Telecommunications services (4)	13
Aerospace (5)	8
Automotive (2)	7
Software and computer services (8)	7

Between Fiscal 2007 and Fiscal 2008, total R&D spending increased in 5 of the 9 leading sectors represented by the Top 100 R&D spenders.

The Top 10 R&D Intensive Firms

The 10 most research intensive companies on the Top 100 list spend a large proportion of revenues on research. In the case of 8 of the 10 firms, spending on research was far in excess of revenues. This typically indicates companies that are in a startup or early growth phase in which research spending is high and revenues are low.

Not surprisingly, almost all of the companies on the list this year were Pharmaceuticals/biotechnology companies. These firms normally have long product development cycles, which are characterized by deferred revenues; hence, their high levels of research intensity.

Top 10 Research Intensive Companies*			
2008 Rank		Company	R&D as % of Revenue
Research Intensity	Overall		
1	46	Cardiome Pharma	3,041.7
2	71	Medicure	1,275.5
3	84	Azure Dynamics	281.0
4	92	ProMetic Life Sciences	176.2
5	34	AEterna Zentaris	149.3
6	97	Tekmira Pharmaceuticals	142.9
7	56	MethylGene	126.1
8	75	Labopharm	115.1
9	48	BioMS Medical	88.5
10	91	Vifor Pharma, Aspreva International (fs)	63.2

*\$1 million or more of revenue

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

Gainers and Losers

Ten companies on the Top 100 list exhibited strong gains in research spending, increasing their R&D by 60% or more between Fiscal 2007 and Fiscal 2008. This year's list of gainers included a mix of technology, resources and pharma/bio firms.

Leading the list was Allen-Vanguard, which had a strong 263.5% increase in research spending. Mining and metals company ArcelorMittal Dofasco was next with a sharp 151.9% increase in R&D spending. Telecom services giant TELUS boosted its R&D spending by a hefty 147.1%. Husky Energy expanded its spending by 122.2%, while Pharmaceuticals/biotechnology company Cangene grew its R&D by 104.7%.

Top 10 Companies by Growth			
2008 Rank		Company	% Change 2007-2008
R&D Growth	Overall		
1	83	Allen-Vanguard	263.5
2	85	ArcelorMittal Dofasco (fs)	151.9
3	11	TELUS	147.1
4	66	Husky Energy	122.2
5	32	Cangene	104.7
6	97	Tekmira Pharmaceuticals	100.2
7	18	Aastra Technologies	91.3
8	86	20-20 Technologies	75.7
9	74	Sandvine	60.7
10	70	Esterline CMC Electronics (fs)	60.6

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

Not all firms managed increases in their research spending in Fiscal 2008. A group of 10 firms posted strong pull-backs in R&D. Among the well-known firms where spending declined, were Ballard Power Systems (-37.0%), QLT (-36.8%), Tembec (-29.9%), and Teck Resources (-28.1%).

Bottom 10 Companies by Growth			
2008 Rank		Company	% Change 2007-2008
R&D Growth	Overall		
1	91	Vifor Pharma, Aspreva International (fs)	-61.2
2	73	BELLUS Health	-55.5
3	52	Ballard Power Systems	-37.0
4	63	QLT	-36.8
5	81	ConjuChem Biotechnologies	-36.6
6	50	Tembec	-29.9
7	80	Teck Resources	-28.1
8	38	CGI Group	-25.1
9	66	Nexen	-25.0
10	51	Petro-Canada ⁺	-23.1

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

⁺Not current name

Looking Ahead

Last year we wrote that *“Companies are bracing for the impact of world financial and stock market meltdowns as this analysis is being written. Suffice to say that there are bound to be major repercussions for corporate R&D spending next year. At this time everything is up for grabs. A number of leading firms may not be in existence next year.”*

Based on the Fiscal 2008 results Canada's Top 100 Corporate R&D Spenders avoided an R&D wipe-out. Total spending declined by -0.2% (up 1.9% without Nortel Networks), which under the circumstances could be seen to be a minor miracle. Perhaps, though, the so-so 2008 results simply reflected a delayed reaction on the part of firms to their dire business circumstances. Undoubtedly, the less-than-expected R&D spending decline was cushioned by the strong growth of revenues of 12.3% for the Top 100 R&D Spenders.

While the overall Top 100 result held up well (in the circumstances), that could not be said for all individual company results. Forty firms experienced negative R&D growth against 59 firms where spending increased.

The full effect of the deteriorating world economy will be reflected in next year's Fiscal 2009 corporate R&D spending results. It is hard to envisage better overall performance than in 2008. For one thing, it appears that Canada's perpetual R&D spending leader (Nortel Networks) will be absent from the list in 2009. In consequence, total corporate R&D spending will undoubtedly be affected – in a downward direction.

New measures are needed to reinvigorate corporate research and innovation in Canada. As we have written elsewhere (*Canada Needs New Paradigm for Research and Innovation*. Toronto Star, 26 August 2009), there are concrete steps that can be taken today, many with little or no net cost, to boost research and innovation:

- Create a research strategy to commercialize our vast services potential.
- Shift a large part of corporate research funding from the tax system to direct support of research through programs such as the National Research Council's Industrial Research Assistance Program (IRAP).
- Strengthen our areas of traditional comparative advantage: agriculture, forestry, mining, mineral processing, energy production and so forth.
- Develop a national strategy to support companies developing instrumentation.
- Modernize procurement policies to allow governments to acquire promising new technologies.
- Reinstate the "unsolicited proposal" program that allowed companies to get support for novel ideas that could be used by government.
- Shift "technology push" resources to "demand pull" - to companies that have identified a market opportunity and need help to pay universities to develop their ideas.
- Automatically give intellectual property rights to companies that pay for or perform government research.
- Consolidate the alphabet soup of federal and provincial funding programs and make it easier for companies and individual researchers to navigate the program maze.

- Develop broad university and college "business engagement strategies" and not simply narrow "commercialization strategies."
- Develop a national software strategy. Canada is an international software powerhouse, producing everything from gaming to financial modelling software.
- Compensate for low levels of venture capital funding by applying the flow-through share model common in the energy sector to research-based companies.

Meanwhile, let's see how well Canada will ride out the global economic downturn.

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