

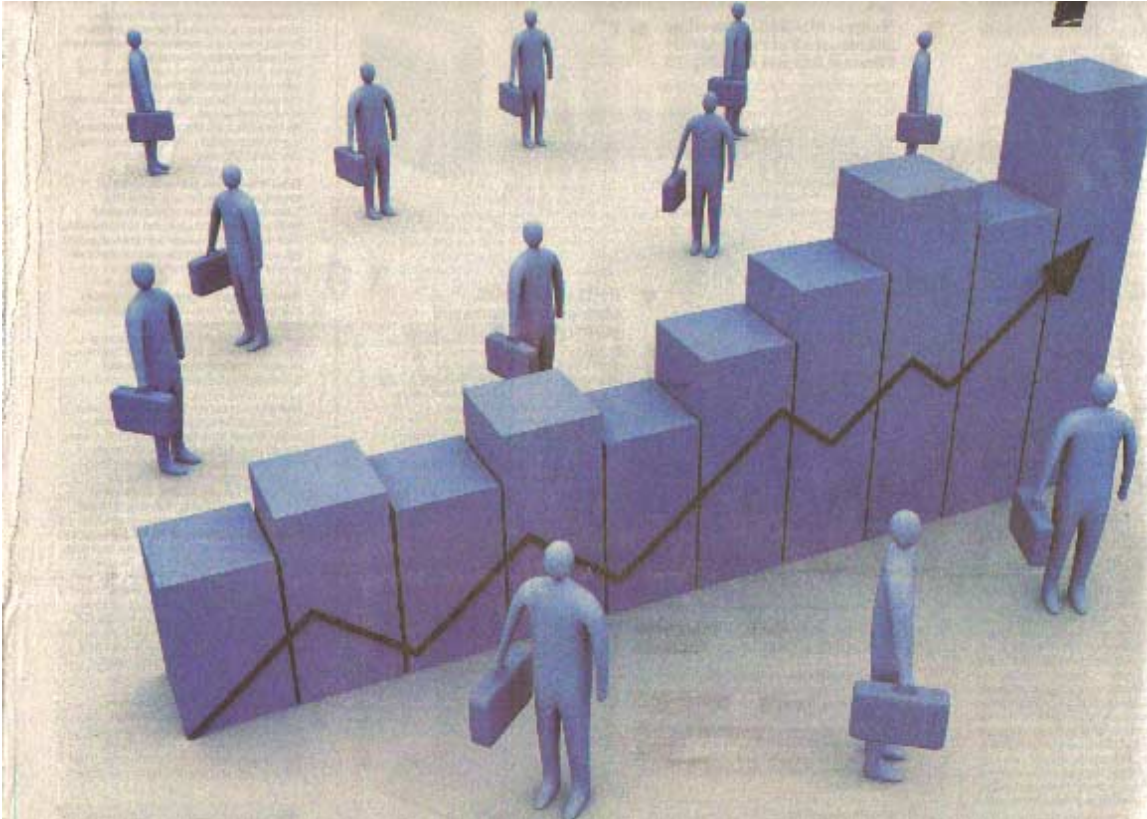
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Behind the numbers



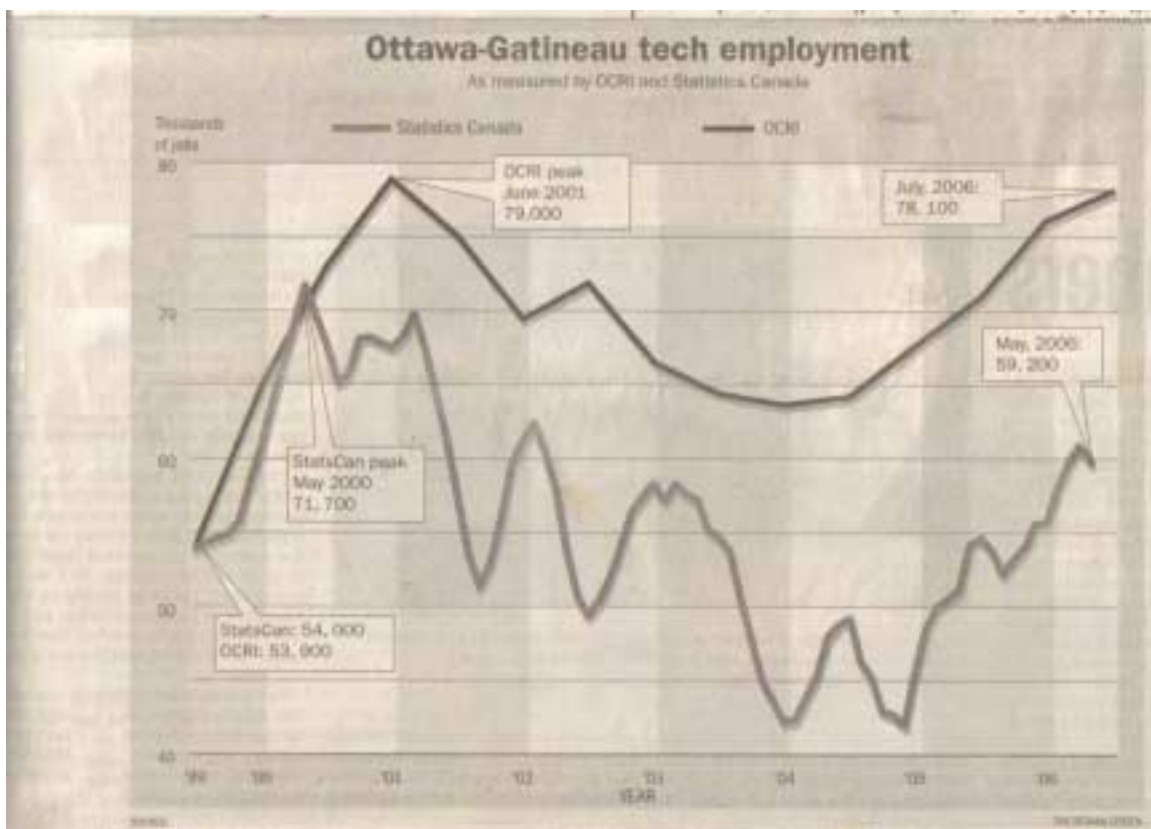
Many unemployed tech workers don't have the skills needed by companies looking for new employees, says Gary Davis, executive director of the Ottawa Talent Initiative.

Photograph by : Chris Mikula, The Ottawa Citizen



OCRI president Jeffrey Dale predicted last year that Ottawa's high-tech industry will employ 100,000 people by 2008. His own numbers suggest that might be possible, but more conservative numbers from Statistics Canada reveal it will be a tall order indeed.

Photograph by : Wayne Herbert, The Ottawa Citizen



Source: The Ottawa Citizen

James Bagnall and Andrew Mayeda, The Ottawa Citizen

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The Ottawa Centre for Research and Innovation claims that Ottawa is on the cusp of a "severe" skills shortage. But company recruiters are hardly sounding the alarm.

Something doesn't add up, including the way OCRI does its math.

Stephen Grant is the last guy you'd expect to have a hard-luck employment story. The former Nortel employee has degrees in engineering and business and more than 20 years' experience in a variety of roles. His list of industry contacts is long and his communication skills excellent.

Since the beginning of the year, he has marketed his services to a number of companies, including a cash-starved startup that offered him stock options, not money, for his labour. Grant remains without full-time work. "I know more people who have lost their jobs over the past six months, than have gained jobs," he said. "The market is not as strong as I'd like."

It's little wonder that job seekers such as Grant were baffled when they heard Ottawa's top economic-development agency, the Ottawa Centre for Research and Innovation, predict recently that the tech industry is on the verge of a "severe skilled labour shortage."

There is, in fact, a curious disconnect between OCRI's abundant optimism about the tech recovery and the reality on the ground.

Much of it has to do with the way OCRI measures the region's high-tech industry. For years, the government-financed agency has been expanding its definition of high-tech so that it now encompasses an extremely wide range of economic activity that wasn't counted as part of the 2000-2001 tech boom.

So when OCRI talks about the presence of more than 78,000 high-tech workers in the Ottawa area, it is in no way comparable to the 79,000 it estimated worked here during the boom.

The less impressive reality, as measured by Statistics Canada -- which uses more restrictive, and more accurate, criteria for defining high-tech employees -- is that the number of tech employees in Ottawa is at least 15 per cent below the peak.

In fact, OCRI's job count now exceeds that of Statistics Canada by nearly 19,000 -- a remarkable gap given that only seven years ago the two agencies recorded nearly identical estimates of 54,000.

OCRI's higher numbers have important ramifications for public policy because it uses its tech employment survey to lobby, among other things, for increased training budgets for colleges and universities. OCRI's pumped up numbers were also a factor in creating population estimates which in turn underpinned ridership estimates for the proposed light-rail transit project.

This is not to say that the high-tech industry isn't recovering from the worst of its recent recession. Citizen interviews with human-resource managers and IT staffing recruiters suggest the tempo of the job market is up nicely, but it's hardly approaching the frenzy of six years ago.

"Looking back at 2000, I would say we're nowhere near that. What we're seeing is just more typical business-as-usual change," said Margo Crawford, director of business operations at Meriton Networks, an optical-networking startup. "Companies are being more cautious in their growth. They're not building ahead of themselves."

OCRI's tech employment numbers have been padded by adding numerous categories that other agencies -- including Statistics Canada and the U.S. Bureau of Labor Statistics -- don't consider high-

tech. For example, OCRI's latest compilation includes law firms, venture capitalists, public relations agencies, colleges, staffing agencies and polling firms.

OCRI has also added companies to its list that are legitimately considered high-tech -- Bell Canada, for instance, with its 3,500 Ottawa employees -- but without adjusting its previous employment surveys accordingly. The result has been a significant exaggeration of the sector's growth.

Jeffrey Dale, who joined OCRI as its president in 2001, makes no apologies for his approach. He says Statistics Canada's definition of what constitutes high-tech is too narrow. However, he acknowledges that OCRI's figures are driven at least in part by marketing.

"The reason we put out this data is to help attract business and stimulate referrals," he said in response to a suggestion OCRI's data isn't comparable from one year to the next. "When local companies do their marketing abroad, they can say they come from a region that has this many people in their field," he adds.

During his time at OCRI, Dale has overseen a doubling of its annual budget, to \$8 million, much of it contributed by the City of Ottawa and other levels of government. A year ago, he surprised many by predicting Ottawa's high-tech industry would employ 100,000 by 2008 and would overtake government as the region's main economic engine. It's an ambitious marker, to be sure, but he obviously means to accomplish his goal using measurements devised by OCRI. The question is, are they legitimate?

Consider first how the OCRI numbers are developed. The agency maintains a database of more than 1,800 companies which are asked twice a year how many workers they employ. OCRI regularly adds new firms to the list when it becomes aware of them through news developments, trade shows and venture financings.

The key to the OCRI sample is which firms it includes. Judging by its latest survey -- available online at www.ottawaregion.com -- OCRI's standards are rather generous. Computer makers, software engineers and network consultants are all in. But so are companies such as law firms and polling agencies that offer their services to high-tech clients -- something Statistics Canada excludes. Nor does OCRI have a minimum size for the companies it includes; its list contains dozens that claim only one or two employees.

"It's a self-designated group," said Dale, responding to a query about what a firm must do to qualify as high-tech.

Interestingly, the Ottawa Business Journal, which uses OCRI's data to publish a listing of Ottawa's tech firms, has its own difficulties with OCRI's wider definition. OBJ editor Leo Valiquette says he leaves out up to one-third of OCRI's listings because these firms "do not produce or in some way make technology." The odd result is that the latest Technology Guide contains information on 1,127 companies while OCRI talks about an Ottawa tech industry with more than 1,800 firms.

OCRI recently added employees from service firms with only a marginal connection to the tech industry -- including NAV Canada and Canada Post. There's little doubt there is a technology component to what some of these workers do, but most people wouldn't count those organizations as high-tech companies. If their employees can be counted in OCRI's numbers, why not add the Ottawa-based workers who do informatics, programming and other high-tech jobs as employees of the federal government?

It's something Dale may have considered. "I've found out informally that the federal government has 18,000 workers in high-tech," he said, "I'd love to get my hands on that data."

But Dale says he doesn't intend to include the federal government's IT workers as a fast way to reach his target of 100,000.

Statistics Canada and other leading statistical agencies have long wrestled with the conundrum of precisely what constitutes a high-tech employee. And they have adopted an approach that is much more rigorous than that of OCRI.

For starters, Statistics Canada surveys households rather than companies, sampling more than 100,000 homes each month as part of its regular employment survey, in a manner that's meant to represent the total population. In each case, Statistics Canada queries members of the household to determine what type of work they do and the names of employers. It then uses this information to determine what industry they belong to.

It's not as straightforward as it sounds. Canada and other countries rely on an industry classification system that doesn't have a category called high-tech. Instead, the system has dozens of sub-categories representing different manufacturing niches and services. Some, such as computer making are obviously high-tech, while others, such as making wood pulp, are not.

Over the years, Statistics Canada has developed a list of 18 sub-categories that it considers high-tech. The main ones include computer and telecom gear manufacturers, software developers and telecommunications providers.

If Statistics Canada determines that your firm fits in one of the 18 niches, then you qualify as a high-tech worker -- whether you are in sales, finance or engineering. If you are an electronic engineer but employed by the federal government, then you are a government worker, not a high-tech employee.

The system can produce results that seem arbitrary. For example, professional staffing firms -- rated non-tech by Statistics Canada -- often supply tech specialists under long-term contract to other firms. But Statistics Canada's methods do have the virtue of consistency.

Indirectly acknowledging some of the criticism of OCRI's catch-all approach, Dale says his organization intends soon to introduce a new system of measuring Ottawa's tech industry.

"We're going to sub-divide the data to create more classifications," he said. "We're going to have pure tech companies, professional services organizations and companies that have large information technology groups such as Canada Post and Giant Tiger."

He added that the precise nature of the new system is yet to be worked out.

The flaws in OCRI's current methodology are disturbing given that agency uses its numbers to influence government policymaking and the City of Ottawa's economic strategy. On the heels of its latest employment numbers, it is calling for a "multifaceted approach" to the predicted skills shortage that would encourage companies to retrain workers, students to enroll in science and technology programs, and governments to fast track the integration of skilled immigrants.

Other Ottawa-based industry organizations are backing OCRI's prediction. The Canadian Advanced Technology Alliance (CATA) has been forecasting a looming "talent war" since last November, when it released a survey of Ottawa tech firms with between 20 and 500 employees. More than 45 per cent of company executives who responded said their firms were already finding it "difficult" or "somewhat

difficult" to recruit necessary talent. But because the survey examines the "attitudes and perceptions" of executives, it is by definition subjective. Were more firms finding it hard to recruit talent three years ago? It's impossible to say, because the survey is the first of its kind.

But Keith Carter, whose firm conducted the poll, believes the Ottawa economy is already suffering from a skills crunch.

"I think a year ago it was on the horizon. Today, we're here," said Carter, vice president of business development at Procom Consultants Group and a CATA board member.

Carter says his company, which recruits employees for tech firms, is already looking to cities such as Toronto and Boston to fill top-drawer talent.

"Do I think companies are going to fold all over town? No, I don't think that's the case ... But for top talent, I do see the market being characterized by longer times to find people and, possibly, the impossibility of finding people."

Meanwhile, the Software Human Resource Council is finding unemployment rates of as low as 1.9 per cent in the 27 information-technology occupations it tracks across Canada, said president Paul Swinwood. He admits, however, that the council doesn't have data specific to Ottawa. The council's system classifies jobs by occupation, and therefore captures IT employees who work in government and non-tech companies.

But some of Ottawa's fastest-growing companies aren't sounding the alarm.

Software maker Bridgewater Systems is in "hypergrowth mode," said vice president of business development and marketing Tyler Nelson. Buoyed by rapid sales growth, it has grown from about 60 employees in November 2004 to just over 150 today, and it plans to hire about 50 more before year end. In the last three or four months, the company has noticed the "candidate pool starting to shrink," especially for software developers, some of whom are entertaining multiple offers, says Nelson.

Still, the company is not seeing serious signs of a shortage. For one thing, there doesn't appear to be much upward pressure on compensation. Bridgewater's HR team also tracks the time needed to fill openings, and sees no cause for concern. The company usually fills positions in 30 to 45 days, and often sooner, says Nelson.

The situation is similar at March Networks, which went public last year and has added about 40 staff since January. Director of human resources Dana Coulter says recruiting is "definitely getting more difficult" than it was six or nine months ago. Recently, it has started advertising positions externally, which it didn't have to do in the months immediately following its initial public offering, which generated considerable interest in the company. And in a throwback to the boom days, it has also started poaching employees from other companies. But Coulter says the job market would have to tighten dramatically before recruiting becomes a major problem.

"It would become a concern if we were missing deliverables or something like that. We're definitely not there."

Meanwhile, IT staffing recruiters interviewed by the Citizen were hesitant to predict a large-scale shortage.

"We're in one of the odd phases where it's probably in a better equilibrium, and frankly I'd say it's healthier for everybody involved," said Les Banks, vice president at the Ottawa office of TalentLab.

"People aren't being ridiculous and saying 'Oh hey, here's a \$50,000 signing bonus, I know you only have two years experience but come anyway,' which is what we had pre-2001."

The convergence of demand and supply is creating some confusing signals. At the Ottawa Talent Initiative Action Centre, a centre for unemployed tech workers, the number of monthly visits to the centre has grown more than two-thirds since the start of the year.

Many of those still pounding the pavement are encountering a more demanding, globalized job market. Some who grew accustomed to comfortable salaries and benefits at companies such as Nortel are now providing "technical support" at call centres in town for a fraction of their former compensation.

At the same time, Gary Davis, executive director of the Ottawa Talent Initiative, says it is becoming more difficult to accommodate the employers who call up looking for a batch of qualified engineers.

"They're looking for all kinds of talent we don't have," said Davis.

Industry observers agree there is a need for a thorough assessment of the skills available in the workforce and those needed by companies to grow.

"Here in Ottawa, there is still a group of underemployed telecom workers. But the problem is that their skill set and technical background is not what's in demand at a lot of companies. So we have a skills shortage. We don't necessarily have a people shortage," said Swinwood.

Indeed, employment at the top three telecom companies alone is down more than 20,000 from six years ago. So even if there has been growth in other sectors such as software or tech services, the mismatch in skills is likely profound.

Swinwood and others point to declining enrolment in science and technology programs at Canadian universities as a sign of a looming skills shortage. Enrolment in high-tech programs at Carleton University, for example, was down 9.1 per cent in the 2005-2006 school year, although preliminary data suggests it will rebound this year. Compared with the peak of 2002-2003, enrolment is down 22 per cent, likely reflecting the weak state of the tech industry when students entered first year.

Universities, like companies, hired staff and expanded infrastructure during the tech boom. As a result, some universities may be "a little more circumspect about responding to demand," says Carleton president David Atkinson. He believes universities and colleges must work more closely with industry to diagnose the nature and scale of any impending labour shortage.

"It's all very well to say we're without high-tech workers. But what kind of high-tech workers?" asks Atkinson. "There's going to have to be much greater interaction, consultation and conversation between the industry and the universities, with the industry saying here are the core disciplines that we want you to handle, and here is what (companies) are prepared to take on."

Ottawa's last boom was driven by companies such as Nortel and JDS Uniphase, big corporations that could afford to invest heavily in employee training. But it's not clear whether the scores of venture-financed startups that have popped up since the bust are willing, or able, to retrain new hires.

"There's still going to be cases where we need specific skills and experience and we're not in a position to train, because we don't have the time, the money or the internal capability to provide the training. So I worry about that," said Mel Mulligan, vice president of human resources at Liquid Computing, a startup that has added more than 80 employees in the last year.

For unemployed high-tech workers like Stephen Grant, the message may be that his deep experience isn't precisely appropriate for Ottawa's emerging tech economy -- no matter how big OCRI thinks it is.

A sample of companies in OCRI's high-tech listing for summer, 2006 that Statistics Canada does not include in its definition of high-tech:

Company Employees

Staffing services firms: 5560

Brainhunter 500

Calian 2200

CNC Global 360

Convergys 1100

S.i. Systems 280

Maxsys 600

Resolve 300

Veritaaq 220

Call centres: 2348

Dell 588 Sitel 1760

Life-sciences: 1497

Camtronics Medical Systems 42

Canbreal Therodiagnosics 20

Gamma-Dynacare 250

Iogen 190

MDS Nordion 700

Natunola 20

Nellcor 85

Pharmagap 15

PRA International 85

Stem Cell Network 80

Zelos 10

Aviation services:

NAV Canada 1100

Legal firms: 774

Bird McGuaig Russell 10

Brazeau Seller LLP 50

Fraser Milner Casgrain 57

Johnston & Buchan 22

Kirby, Eades, Gales, Baker 49

Labarge Weinstein 31

Mercury Law 45

Ogilvy Renault 105

Ridout & Maybee 56

Smart & Biggar 229

Solway, Wright 75

Stikeman Elliott 45

Transportation: 412

Innovapost 400

Celtic Tech Jet 12

Aerospace:

Arnprior Aerospace 400

Venture Capital firms/banks: 407

Axis Capital 4

BCE Capital 10

Beck Pharma Venture Capital 3

ING Direct 300

Newbury Ventures 3

BDC 40

Capital Alliance Ventures 5

Celtic House Venture Partners 10

Skypoint Capital 12

Ventures West 5

Wesley Clover 15

Training companies: 373

Autoskill 55

CDI College of Business & Technology 30

Friesen Kaye & Assoc. 50

Graybridge Malkam 100

Herzing College 13

Langevin Learning Services 50

Learning Tree International 50

Willis College of Business 25

Real estate/architectural services: 207

J.L. Richards 130

Kanata Research Park Corp. 37

Tempest Management 40

Public relations/marketing services: 185

Byward Marketing Group 10

High Road Communications 13

Informetrica 25

Inmedia 6

Ipsos-Reid 9

Landsdowne Technologies 45

McLoughlin Media 4

McMillan 42

Mediaplus Advertising 25

Weber Shandwick 6

Total 13,263

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