EXECUTIVE SUMMARY

Technology in the Greater Toronto Area

Toronto is the leading Canadian metro area in terms of the size of its information, communication and telecommunication (ICT) sector employment and is ranked seventh in North America[1]. The ICT industry slowdown experienced since 2001, while significant, is marginal compared to the stock market meltdown, and indeed has had no traceable negative effect on the economy of the Greater Toronto Area (GTA). The Interactive digital media (iDM) sub-sector remains one of the most innovative segment of the overall ICT industry, supported largely by local talent.

A Changing iDM Industry

The iDM industry that was the basis for research for this project is not the same as it was as recently as 2000. While the technology thrived, and was gradually adopted by traditional sectors of the economy, the iDM industry in the GTA faced the same crisis as the rest of the ICT industry in North America, that is—a fundamental credibility crisis in the financial markets. This has resulted in slow activity in the venture capital market and practically no initial public offerings since 2001-2002. While there are other funding sources, namely financial incentives (including R&D tax credits) available from over 43 federal, provincial and even private sources (e.g. Telus), 17 of which are specifically focused on iDM, more research is needed to determine whether these funds and the conditions attached to them are in fact sufficient to make a difference in the development of the iDM industry in the GTA.

As an example of the extent of the crisis, more than 200 iDM firms in the GTA disappeared between 2000 and 2003, despite government support and the initiatives of several industry associations. Indeed, while the technology has been and remains compelling, the business models based on the valuation of intellectual property were insufficiently sound, at least in the view of investors. Creativity alone failed to command the expected premium or the financial added value needed to keep the industry growing. The iDM industry subsequently underwent a fundamental restructuring including substantial downsizing among the top companies, as well as a series of mergers and acquisitions, often with companies from outside the iDM industry. This restructuring is still underway and is reshaping the industry; consequently, the borders defining the new iDM sector are not yet clearly defined.

Despite the current difficulties of the industry, there are success stories. Some of these, attributable to recent growth and innovative developments, are highlighted in this document.

A Portrait of the New iDM Industry

This portrait of the iDM industry is a first step in the information, communication and telecommunication initiative launched by the Greater Toronto Marketing Alliance in partnership with the Economic Development Department of the City of Toronto. The objective is to draw a data-based portrait of the iDM industry, which is both detailed and current. E&B Data believes that the new system for gathering industry statistics put in place for the purposes of this study will allow to better track its evolution.

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[1] E&B Data—High Technology Sector Benchmarks for North America Metro Areas 2002

Where Technology Meets Media

The iDM industry is made up of businesses whose main activity is providing technology products and services to media markets. The definition includes companies that are focused on iDM (e.g. computer animation), as well as those that have related activities (e.g. embedded graphics software). Companies included fall into one or several of the following segments: data processing/digitization, graphic design services, Internet publishing and broadcasting, Internet commercial information and service providers, Website developers, motion pictures and videos, sound recording industries, post-production and editing, reproduction of CDs, disks or DVDs, special effects/animation, simulation/gaming, computer training, customized software and manufacturing of electronic components related to graphic design, sound design, animation or special effects.

Industry Structure

The GTA iDM sector consists of more than 800 companies employing approximately 18,000 people. Companies that focus specifically on iDM number about 200, and employ over 3,000 people, while the 600 firms with activities related to iDM employ nearly 15,000. Overall sales are estimated at between $1.5 billion and $2 billion annually. Approximately 60% of these firms are located within the City of Toronto. While 85% of iDM-focused companies are located in the City of Toronto, other iDM companies, including manufacturers, tend to be located outside the regional centre, i.e. in the regions of Durham, Halton, Peel and York. The typical company is small (median employment of 10) with estimated annual sales of $1 million.

A Talented Workforce

It is increasingly recognized that the quality and creativity of a workforce plays a critical role in innovative industries such as the iDM industry. Indeed, the long-term development of an economy cannot easily be sustained on cost advantages alone. At some point, the quality and productivity of the workforce compared to other metropolitan areas are major sustainable advantages for the development of a metropolitan area. While benchmark indicators available are neither detailed nor current, new indices have been designed in recent years (by Richard Florida in the United States and the Institute for Competitiveness and Prosperity in Canada) to help draw an initial profile of how metropolitan areas compare in this respect.

Beyond a cost advantage over other major North American iDM centres such as New York City and San Francisco (92% and 71%, respectively), the talent of the GTA workforce is a critical element in a region's competitiveness. In this respect, its education, culture and diversity can be assessed through composite indices reflecting how the GTA compares with other centres. For instance, the Bohemian Index (ranking employment in artistic and creative sectors) ranks Toronto fourth among major North American cities, behind New York City (second) but in front of San Francisco (sixth). Finally, the Mosaic Index (multiculturalism) puts Toronto first, ahead of San Francisco (fifth) and New York City (sixth).

Higher Learning and Research

Institutions of higher learning play a significant role in the industry, especially when education is tightly knit with research. In this respect, Toronto area is uniquely positioned in Canada, even discounting several centres of excellence located just outside the GTA, such as the University of Western Ontario. In the Greater Toronto Area proper, the following centres are active in iDM:

- University of Toronto offers two iDM-related programs and operates 11 R&D centres related to iDM, including the Knowledge Media Design Institute and the Interactive Media Lab.
- York University offers six iDM-related programs and operates one R&D centre related to iDM (Centre for Vision Research).
- Ryerson University offers six iDM-related programs and three R&D centres related to iDM, including the Rogers Communications Centre.

Colleges are also active in iDM training and even in R&D activity related to iDM, including Seneca College (Digital Media Centre) and Sheridan Institute of Technology and Advanced Learning (Visualization Design Institute). As well, the new Ontario Institute of Technology will start offering ICT courses in September 2003.

iDM Skills Integration in the GTA Economy

In a competitive economy using emerging technologies, exclusive iDM expertise used to be sold at high prices. In the current economic climate where economic growth has receded and iDM expertise is more widespread, iDM-related work is becoming more integrated with in-hoi business functions. A combination of factors suggest the successful transfer of skilled individuals from iDM-focused companies to other economic sectors in the Greater Toronto Area:

- Co-existence of high graduation numbers and placement rates and no signs of employment growth in the iDM industry. Recent studies[2] point to a 30% decrease in employment between 2001 and 2002 for the vast majority of Interactive Media companies surveyed in Canada. Indeed, several examples of significant reductions in employment at GTA iDM firms have been found. Parallel to this, the number of iDM program graduates remains unchanged, and job placements for ICT programs are still high (90% plus). This paradox suggests that overall, the iDM workforce is finding employment outside the iDM industry proper.
- Signs of growth in three sectors related to iDM. While the iDM industry is consolidating, three sectors in the GTA show ongoing signs of growth: healthcare, training as well as the finance sector, or more specifically their system functions (referred to in this document as e-health, e-training and e-finance). For instance, in e-health and e-training, major initiatives are being launched by world leaders such as Cisco, IBM and Thomson either in partnership (e.g. with hospitals) or as stand-alone commercial operations. Also, small and medium-sized locally-owned businesses are increasing their scope, both geographically and corporatively, through mergers and acquisitions. Additionally, several public R&D projects are focused on iDM applications for health care (imagery and visualization in particular). In e-finance, an international success story is already apparent in e-banking, based on GTA-made developments. Indeed, Canadian e-banking has one of the world's largest penetration rates among consumers, higher in particular than in the United States. This performance is at least partially attributable to iDM skills applied to the design and operation of Web-based applications destined for bank customers.

[2] Delvinia—"Interactive Media Producers Survey 2002"

Toronto's iDM skills and expertise have thus far been able to survive and prosper in the current North American economic downturn due to the economic diversity of the GTA and its continuing integration with other economic sectors.

Mid-to Long-Term Outlook

Positive developments in technology (in particular broadband to the home), regulations and standards matched with rising consumer sales point to the emergence of interactive TV (iTV) as a major development for the iDM industry. While digital TV services and applications are already on the market (e.g. video-on-demand), true interactive TV—yet to come—will be at the centre of media-rich home entertainment, with a business model based on subscriptions and television commerce (or so-called "t-commerce"). Companies are already starting to position themselves in this market, including some operating in the GTA, such as Rogers and Toronto Star TV.

E&B Data believes this market will emerge as a commercial powerhouse within the next 10 to 20 years and that the Greater Toronto Area has the foundation, in terms of technology, creativity and business skills, to play a significant and profitable role in a new development phase of the iDM industry.