LEVELLING THE PLAYING FIELD:

Using a Digital Media Incentive Program to Support the Growth of the Digital Media and Game Development Sector in Greater Moncton

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1. Executive Summary

Digital media incentive programs (DMIPs) are used by the majority of provinces in Canada to support the growth of the digital media and game development industry. Not having a DMIP is putting New Brunswick companies at a competitive disadvantage and it is stifling the province's ability to attract firms in this sector. The New Brunswick government has recognized this deficiency and referenced the need for a program in the recent Speech from the Throne.

Digital media and video game development has been among the fastest growing sectors of the Canadian economy and holds considerable potential for future growth. Greater Moncton has an emerging digital media and game development sector. There are at least four firms in the region active in this area including Gogii Games, Pitch Mobile, Gold Sun Games and Agora Mobile. However, it is difficult for these firms to compete and grow when neighbouring jurisdictions are offering lucrative DMIP programs.

As this report reveals, Greater Moncton and New Brunswick offer a variety of features that are attractive to the digital media and game development sector. There is a pool of creative talent – designers, programmers and also support talent such as actors, writers, etc. Unlike competitor jurisdictions, Greater Moncton has a bilingual talent pool which can be used to produce games in both English and French. There is also a supply chain of firms that have expertise in video and audio post-production and other related services.

According to research completed by KPMG in 2010, firms in the ICT industry have the potential to make a higher profit margin in Greater Moncton compared to rival locations. New Brunswick's corporate tax rate is lower than both Nova Scotia and Prince Edward Island and personal income tax rates are also below neighbouring provinces. In addition, Greater Moncton has a demonstrated track record of attracting people from places such as Toronto to move here for good career opportunities.

Digital Media and Game Development: Levelling the Playing Field – Summary
With the DMIP – New Brunswick will be competitive for digital media studios

Value Proposition Feature:	Greater Moncton	Halifax	Charlottetown
Digital Medial Incentive Program (Section 3.1)	No	Yes	Yes
Software development talent pool (Section 5)	Yes	Yes	Yes
Local cluster of creative talent (writers, actors, musicians, etc.)	Yes	Yes	Yes
Bilingual software development and creative talent pool	Yes	No	No
Digital media supply chain (video, audio, post-production) (Section 5)	Yes	Yes	Yes
Lowest corporate tax rate in region (Section 7.1)	Yes	No	No
Lowest personal tax rate in region (Section 7.1)	Yes	No	No
Highest ICT profit margin in region(Section 7.2)	Yes	No	No
Track record of attracting creative talent (Section 7.4)	Yes	Yes	No
Digital media post-secondary education opportunities (Section 7.3)	Yes	Yes	Yes

This report provides a summary of the competitive landscape for the digital media and game development sector in Canada as well as a summary of the industry in New Brunswick and in the Greater Moncton region. It also makes the case that a competitive digital media incentive program could be an important tool to help grow the industry in the province. Finally, the report looks at elements of the value proposition that will support the growth of this industry in the Greater Moncton region.

2. Digital Media & Game Development: Overview

2.1 Defining the Industry

There is no uniform definition for the industry and defining what is covered under a DMIP can be challenging. Section 3.1 below provides an example technical definition of the types of activity that could be covered under a DMIP. Invest in Canada[1] breaks down the digital media and game development industry into four areas:

- **Console games:** These are games developed for specific consoles such as Nintendo Wii, Sony PlayStation and the Microsoft X-Box. Category-leading console game developers in Canada include Digital Extremes, Radical Entertainment (Activision Blizzard), EA, Disney and Ubisoft.
- **Online/Social games:** These include games developed for the online world – for single play or multiplayer. Facebook has emerged as the largest platform for social games with hundreds of millions of players.
- **Mobile games:** Canada is home to a number of mobile developers that have produced titles such as Emily Yeung by Marblemedia, Artificial Mind & Movement's Spiderman: Friend or Foe and Super Monkey Ball by Other Ocean Interactive.
- **Games for professional use:** Canada is also developing significant expertise in serious games, which use game-like technology for training and simulation. CMLabs and CFB Gagetown undertake defence simulations, while Coole Immersive, Artifact Software, and Xpan Interactive specialize in industrial training. Spongelab Interactive and Project Whitecard are working on math and science games.

According to PwC research, there are "tremendous opportunities for growth as markets continue to emerge and expand". The research firm concludes that global console games, the largest category, generated revenues of $28.1 billion in 2010 and will expand at a 4.4 per cent compound annual rate to $34.8 billion in 2015[2].

Gartner, Inc. estimates that worldwide spending on the games ecosystem (hardware, software and online games) will exceed $74 billion in 2011, up 10.4 per cent from 2010 spending of $67 billion. By 2015, spending will reach $112 billion[3]. The online games market is estimated to be $12 billion in 2011 and will rise to $28 billion by 2015.

PwC believes the digital media/games market will benefit from increased broadband penetration combined with growing digital distribution of content. Massively multiplayer online games (MMOGs), with their subscription fees and micro-transactions, is another key trend driving the industry's growth along with casual games and social network games. In addition, smartphones and tablets with improved graphic capabilities will raise the bar for the quality of wireless games and drive demand. At the same time, new application stores will increase the number of gamers willing to purchase games. Burgeoning 3G/4G networks will enable wireless games to approach the quality of console games.

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[1] A federal government initiative promoting Canada as a location for multinational firms.
[2] The big table of Digital Media and Animation Incentives in Canada. PwC (August 2011).
[3] Market Trends: Gaming Ecosystem, 2011. Gartner.

2.2 The Canadian Entertainment Software Industry

Adjusted for population size, the Canadian entertainment software industry[4] is one of the largest and most dynamic in the world. On an absolute basis, only the United States and Japan have larger industries. A new report published by Secor Consulting Inc. entitled *Canada's Entertainment Software Industry In 2011* provides an excellent review of the industry including its regional dynamics.

The Canadian video game industry is made up of nearly 350 companies that employ approximately 16,000 people. The Secor report estimates there are another 11,000 more employed from indirect and induced activity for a total employment impact of nearly 27,000 people. The industry accounts for an estimated $1.7 billion worth of economic activity in Canada (2011).

The entertainment software industry has been growing strongly over the past two years with an 11 per cent annual growth rate and it is expected to grow even more rapidly over the next two years with an estimated 17 per cent growth rate per year.

The entertainment software industry in Canada, 2011

Employees:	15,700
Economic activity*:	$1.7B
Growth rate** (past two years):	11%
Expected growth rate** (next two years):	17%
Number of companies:	348
Avg. employees per company:	45

*Aggregate operating budgets and induced economic activity; not equivalent to total industry revenue.
** Compound annual growth rate (CAGR).
Source: Secor Consulting Inc.

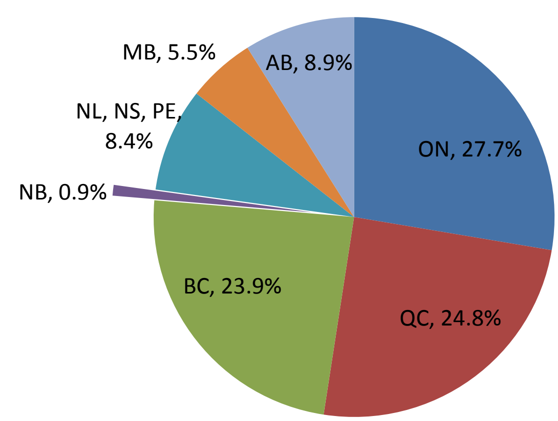
The industry provides high-paying and good quality jobs. In 2011, the average salaries for employees at Canadian video game companies ranged between $40,000 and $73,000, which is above with the median income earned by workers in the overall economy. These jobs tend to be knowledge-intensive, challenging, team-oriented, and fast-paced, and are held disproportionately by younger workers.

Among the firms surveyed for the Secor report, the average pay level in Atlantic Canada was higher than the rest of Canada. The average salary for a worker in this industry across Atlantic Canada is more than 50 per cent higher than the overall average wage in the region.

Ontario has the largest number of firms with 28 per cent of the national total followed by Quebec at 25 per cent and British Columbia at 24 per cent. New Brunswick only has 0.9 per cent of the firms in this industry (chart on the right).

Quebec has a disproportionate share of large video game development studios (those with at least 150 employees). Twenty of the country's 29 large studios are based in Quebec. According to Quebec government data, there are more than 7,000 workers in the sector across that province.

Entertainment Software Firms (2011)
Breakdown by Province (% of Total)



Source: Secor Consulting Inc.

[4] Entertainment software covers the same product categories as digital media games as defined in Section 2.1

3. The Competitive Landscape

3.1 Digital Media Incentive Program Programs: Defined

Each of the provinces offering a DMIP has a slightly different definition of what constitutes eligible digital media. In general, 'digital content' includes the creation and production of original, interactive digital media intended for distribution through interactive channels across multiple platforms – console, PC, MAC, online and mobile devices. Digital content for the purposes of a DMIP is typically interactive and must directly engage a consumer. Digital content normally includes the music, sound, and animation elements, along with associated programming. Several of the programs summarized in Table 1 below include a portion or all of the costs of distribution and marketing in their definition.

Nova Scotia and Prince Edward Island represent the two jurisdictions in the most direct competition with New Brunswick to attract this industry. Section 7 details additional areas of competitive differentiation for New Brunswick.

Table 1: Digital Media Incentive Program Programs in Canada (2011)

Province:	Program:	Summary:
British Columbia*	Digital Animation or Visual Effects Tax Credit	17.5% of eligible British Columbia labour directly attributable to digital animation or visual effects activities (no maximum).
Ontario	Interactive Digital Media Tax Credit	40% of eligible Ontario labour (no maximum) and eligible marketing and distribution expenditures (max: $100,000 per eligible product).
Quebec	Production of Multimedia Titles Tax Credit	26.25%-30% of eligible labour. Premium for French language version.
Manitoba	Interactive Digital Media Tax Credit	40% of eligible Manitoba labour (Maximum: $500,000 for each project) for prototyping and product development.
Nova Scotia	Digital Media Tax Credit	50% of eligible Nova Scotia labour and an additional regional credit of 10% for projects outside the metro Halifax zone or 25% of total Nova Scotia expenditures + regional credit of 5%.
Prince Edward Island	Labour Rebate	37.5% of eligible Prince Edward Island labour (no maximum).

**BC also offers a New Media Venture Capital tax credit program.*
Source: PwC Big Table of Film and Video Incentives in Canada — August 2011.

3.2 Competitive Landscape: Provincial Review

In its ability to attract digital media and game development firms, Quebec has been by far the most successful jurisdiction in Canada. More than a dozen large, multinational firms have set up in the province and there are several dozen homegrown studios. British Columbia has emerged as a competitor to Quebec and Ontario by attracting multiple large firms. Some of the biggest players such as Electronic Arts (EA) and Ubisoft – have large development studios in more than one province. Table 2 provides a short summary of Canadian provinces with significant digital media and game development activity.

Table 2: Competitive Landscape Review

Jurisdiction:	Summary:
Nova Scotia	Halifax is home to more than a dozen digital media companies such as HB Studios, Longtail Studios, Xona Games, CAE and Twisted Oak Studios. The province is promoting university level training in game development, low turnover and its airport. Nova Scotia currently has Canada's most aggressive Digital Media Tax Credit program. Since launching the tax credit, the province has added eight new firms.
Quebec	Montréal is rapidly becoming one of the most attractive cities in the world for the establishment and expansion of companies in the digital game development industry, which has grown over 600 per cent since the introduction of its DMIP. The industry employs more than 7,000 people in companies such as Ubisoft, Eidos Interactive, Electronic Arts and Activision.
Prince Edward Island	Charlottetown is an emerging game development location thanks in large part to the government's Gameplan sector strategy. In just three years, Prince Edward Island's previously non-existent game industry has grown to include such companies as Other Ocean Interactive, Bight Games, Telos Productions and Longtail Studios. Prince Edward Island is also home to Game Force, an after-school game training initiative for high school students, and GameGarage, a summer incubator program for recent computer science graduates. Prince Edward island has drawn 10 game development companies with it digital media tax credit and the province has a mandate to create 600 game development jobs by 2014.
Ontario	According to provincial government estimates, Ontario's digital media industry generates revenues in excess of $1 billion annually, attracting investments from global players such as Capcom and Koei. Major industry players such as Starz, Decode Entertainment and Ubisoft have operations in the province.
Manitoba	Winnipeg is a growing digital media cluster, with an estimated 125 companies focused on interactive digital media and games. Over the last three years, revenues in the Manitoba video game industry have more than tripled. This is in part due to incentives like the Manitoba Interactive Digital Media Tax Credit. The industry is also supported by the University of Manitoba's Smartpark Research and Technology Park business incubator.
British Columbia	Vancouver is a hub of cutting-edge video game development, attracting leading companies such as Electronic Arts, Radical Entertainment, Disney, THQ Inc., Deep Fried Entertainment, Ubisoft and Blast Radius.

4. The Greater Moncton Digital Media and Game Development Sector

There are four companies in the Greater Moncton area that are focused on developing digital games: Gogii Games, Pitch Mobile, Gold Sun Games and Agora Mobile[5].

- **Gogii Games**
  Gogii Games is casual games publisher/developer working with developers and intellectual property (IP) owners to help develop, distribute, and license IP or product to retail, online and alternative channels worldwide. With over 45 products under its belt in over 10 languages and 10 countries, and more than nine #1 titles, Gogii Games has been a reliable source for consistently strong casual products for every aspect of the industry; from PC/MAC to NDS and Wii, from retail to the Apple iPad/iPhone, with such franchises as Escape the Museum 1 & 2, The Hidden Object Show 1 & 2, and the #1 hit Princess Isabella: A Witch's Curse. In May 2011, Gogii added another Number 1 Big Fish title and its IOS release was one of the Top 5 Games downloaded via iTunes – resulting in a record breaking sales month for the firm.

  The company was established in 2006 and now has over 30 full-time staff in Moncton with an average age of only 23 years old.

- **Pitch Mobile**
  Pitch Mobile is a multimedia studio specializing in educational content as well as interactive and social media. Pitch Mobile's competent creative team has built Flash games that have enjoyed millions of game plays, and is constantly striving to deliver new and compelling experiences to educators, students and gamers. The firm's studio is uniquely situated adjacent to one of Canada's leading Art and Design colleges (McKenzie College) and draws on the nearby resources.

- **Gold Sun Games**
  Moncton-based Gold Sun Games is focused on developing affordably priced casual games. The firm has developed titles in a number of categories including: time management, hidden object, card/board games, and action/adventure.

- **Agora Mobile Inc.**
  Agora Mobile combines social networking and visual programming technology that dramatically reduces the complexity of programming mobile applications. The app-building program, called "Splash," allows allow app users and app developers to connect with each other.

In addition, there are a small group of self-employed entrepreneurs developing games across the province usually in home-based businesses. They are either developing their own games and distributing them through online services such as the iTunes store or they are sub-contracting work from larger studios.

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[5] SPIELO International has created dozens of games for gambling in terminal and online environments. However, in other provinces this type of production falls outside the scope of digital media incentive programs.

5. The Case for a Digital Media Incentive Program

Reason #1: To Level the Playing Field

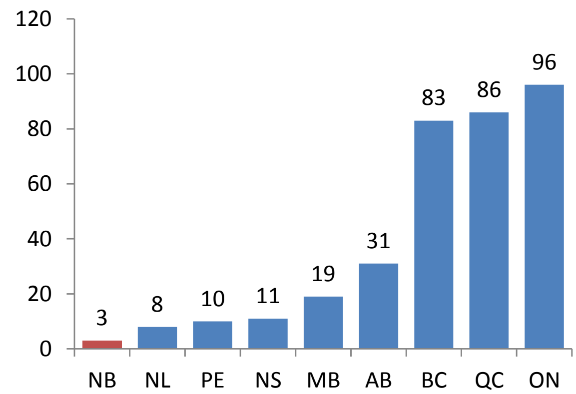
The main reason for New Brunswick to offer a digital media incentive program (DMIP) is to level the playing field for the industry here in Greater Moncton and the rest of the province. If other provinces are aggressively using tax policy to foster the digital media and game development industry, New Brunswick needs to decide if it wants to compete. As discussed in Section 7 below, there are a number of competitive advantages that New Brunswick offers the industry but these are overshadowed by the lack of a DMIP. There are many reasons why the digital media and game development industry makes sense as a target for New Brunswick including:

- **It is fast growing – across North America.** In Canada, the entertainment software industry is expected to grow by 17 per cent over the next two years.
- **It is high paying.** With an average salary of well above the median for all workers, this is one of the few industries where the average salary in Atlantic Canada is actually higher than the rest of Canada.
- **It can attract talent.** With higher than average salaries and desirable career opportunities, the digital media and game development industry can attract people from across Canada and beyond to Greater Moncton and New Brunswick.

Reason #2: To Foster More Digital Media Entrepreneurs

New Brunswick has far fewer digital media and related entrepreneurs compared to other provinces. According to the 2011 entertainment software industry survey in Canada[6], only three out of the 347 firms across the country are located in New Brunswick (less than one per cent of the total).

Entertainment Software Firms (2011)
Geographic Distribution Across Canada



Source: Secor Consulting Inc.

There are more than 8,000 people working in the information and communications technology (ICT) industries across the province. New Brunswick is home to many college and university level training programs in ICT-related disciplines. The community colleges in Miramichi and Dieppe have diploma programs turning out dozens of graduates with skills in video game and animation development each year.

Yet, only a small handful of digital media entrepreneurs have emerged. The absence of a digital media incentive program is likely a major barrier to entrepreneurs starting a digital media business in New Brunswick because they understand from the start the competitive disadvantage of establishing in the province.

A DMIP is not a panacea for fostering digital media entrepreneurial ventures. Other efforts underway such as PropelICT's Launch 36 incubator/accelerator program will be important to encourage entrepreneurship as will be other efforts undertaken by the Enterprise Network and organizations such as Tech South East.

[6] Detailed in Section 2.2.

If the DMIP and other efforts lead to 10-20 new digital media starts up over the next few years it will be a substantial boost to the industry across the province.

Reason #2: To Attract Digital Media Firms to New Brunswick

Invest NB is on the hunt looking to attract high quality national and international firms to New Brunswick. A key priority of the organization is to focus on developing and promoting specific competitive advantages that give the province an edge over other jurisdictions. For the digital media industry, these advantages include features such as a bilingual workforce, a competitive operating cost environment, and a pool of talent and the ability to attract skilled creative workers to the province (see Section 7 below for details). Adding a DMIP would bolster the value proposition for this industry and give Invest NB and its partners another important selling feature when they are out looking for firms to attract into the province.

Reason #3: To Attract More Outsourced Digital Media Development

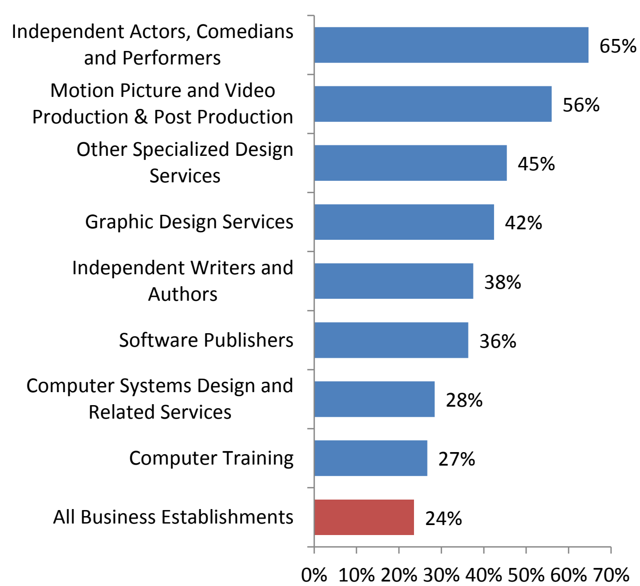
Despite a few geographic concentrations of activity, the digital media and game development industry as a whole is highly distributed. Firms in California will outsource specific development activities to firms in Canada or Eastern Europe. Having a DMIP will allow smaller New Brunswick-based firms to be competitive when bidding on this type of work from the larger studios across North America.

Reason #4: To Enhance the Creative Industries Cluster

New Brunswick has a small but vibrant creative industries cluster. Greater Moncton is home to a substantial share of the province's creative industries. There are between 2,500 and 3,000 people working in creative occupations such as graphic design, computer programming, photography, etc.

There are also over 240 firms in the creative cluster in Greater Moncton including 56 per cent of the province's motion picture and video production and post-production firms; over 40 per cent of the province's graphic design services companies and 36 per cent of its software publishers (Table 3 below).

A Concentration of Creative Industries
Greater Moncton Firms as a % of Provincial Totals



Source: Canadian Business Patterns. Statistics Canada (2011).

The digital media and game development industry leverages many of the skill sets of the creative class. Actors and writers are used for script development and voice overs and video/music production studios are used to produce video and audio elements. Graphic design services are used for specialized imagery. Specialized computer programming expertise is leveraged for a variety of uses.

A DMIP that leads to more digital media and game development in Greater Moncton will result in more work in these broader creative areas – strengthening the creative industries cluster.

Table 3: Creative Industries in Greater Moncton (2011)
# of Business Establishments*

Industry (NAICS):	New Brunswick	Greater Moncton	% of NB Firms in Greater Moncton
All Industries			*23%*
511210 - Software Publishers	22	8	36%
512110 - Motion Picture and Video Production & Post Production	114	64	55%
541430 - Graphic Design Services	66	28	42%
541490 - Other Specialized Design Services	11	5	45%
541510 - Computer Systems Design and Related Services	380	108	28%
611420 - Computer Training	15	4	27%
711512 - Independent Actors, Comedians and Performers	17	11	65%
711513 - Independent Writers and Authors	24	9	38%

**These are incorporated businesses only. The table does not represent the number of persons in artistic occupations.*
Source: Canadian Business Patterns. Statistics Canada (2011).

Reason #5: To Attract and Retain Creative Talent

Between the private colleges such as McKenzie College in Moncton, the New Brunswick Community College (NBCC), the Collège communautaire du Nouveau-Brunswick (CCNB), and the province's universities, there are potentially hundreds of graduates each year coming out of the talent pipeline for the digital media industry. Specific video game-related programs at the NBCC, CCNB and McKenzie College graduate between 50 and 100 students each year.

There is considerable evidence that New Brunswick loses much of this talent each year to the digital media industries in other provinces. The Miramichi Campus of the New Brunswick Community College estimates that at least 50 per cent of the graduates from its two electronic game development programs leave the province each year. Since the courses were launched in the mid-1990s, there have been more than 500 graduates of these programs in the Miramichi[7].

Table 4 shows a sample of people who graduated from the Electric Game diploma programs in the Miramichi Campus of the New Brunswick Community College and where they ended up for work. The majority of them left the province ending up in neighbouring provinces such as Prince Edward Island and Nova Scotia as well as far flung places such as Alberta and California. Only 12 out of the 33 were able to find employment in New Brunswick.

There is a cost to this migration. The New Brunswick taxpayer foots a large part of the bill for both public college and university education. If New Brunswick loses these graduates to other markets, its taxpayers are in effect subsidizing the digital media workforce in other provinces.

[7] Based on an interview with a program representative at the NBBC – Miramichi.

Table 4: Geographic Distribution of New Brunswick's Game Developers: LinkedIn example*
Graduates of NBCC Miramichi Electronic Game diploma programs

Current Location:	# of Graduates:
New Brunswick	12
Other Atlantic Canada	6
Montreal	6
Ontario	4
Vancouver	3
Boston	1
Calgary	1

Source: LinkedIn

The few digital media companies that are in New Brunswick indicate they receive interest from programmers in New Brunswick and outside looking to advance their careers here. One local game development firm says it received hundreds of resumes over the past 12 months from interested candidates, many of whom would be relocating from outside New Brunswick.

Greater Moncton is an attractive location for workers in creative occupations such as digital media development. The community is large enough to feature a wide variety of entertainment and recreational opportunities but small enough to offer a lower cost of living, very low crime rates, short commute times and an excellent location to raise a family.

In addition, there are multiple venues for creative workers to network such as the CyberSocials.

Reason #6: Greater Moncton needs a growing ICT Sector

An important reason why Greater Moncton is encouraging the provincial government to implement a DMIP is that the community needs a vibrant and growing information and communications technologies (ICT) sector as a growth engine. A number of the community's important industries in recent years are not likely to continue adding employment and ICT is a good candidate for growth.

The customer contact centre industry is not likely to create substantial new employment in the community as it has since the early 1990s. In fact, over the last five years, the sector where most call centre jobs are accounted for (shown in Table 5 below under Business and Other Support Services), has witnessed a drop of 1,200 workers. The industry will continue to be an important sector of the economy but is not expected it to grow total employment in the coming years.

The construction sector, which has been the largest creator of new jobs in recent years, is not likely to sustain this growth as much of the activity was related to provincial and federal governments' stimulus spending in the wake of the 2007/2008 recession.

Other publicly funded sectors, health care, education and public administration all grew employment strongly in the past five years. It is likely these sectors will not be adding new employment in the coming years as governments look to eliminate large budget deficits.

For Greater Moncton to continue growing its economy, it will need to foster new growth in professional services, finance and insurance, ICT and manufacturing. The digital media and game development sector is fast growing across Canada and could be an important growth engine for the Greater Moncton economy.

Table 5: Employment by Industry (Five Year Trend)
Moncton-Richibucto Economic Region

Industry (NAICS):	2006 (000s)	2010 (000s)	% Change	# Change
Total employed, all industries	96.6	103.6	7%	7,000
Goods-producing sector	**17.4**	**20.8**	**20%**	**3,400**
Agriculture	0.9	1.1	22%	200
Forestry, fishing, mining, quarrying, oil and gas	2.0	1.8	-10%	-200
Construction	5.6	8.1	45%	2,500
Manufacturing	8.8	9.3	6%	500
Services-producing sector	**79.2**	**82.9**	**5%**	**3,700**
Trade	18.3	17.3	-5%	-1,000
Transportation and warehousing	7.2	6.9	-4%	-300
Finance, insurance, real estate and leasing	5.5	6.1	11%	600
Professional, scientific and technical services	3.6	4.3	19%	700
Business and other support services	***6.9***	***5.7***	***-17%***	***-1,200***
Educational services	6.3	6.9	10%	600
Health care and social assistance	10.9	13.1	20%	2,200
Information, culture and recreation	4.4	4.3	-2%	-100
Accommodation and food services	6.9	6.2	-10%	-700
Other services	4.2	4.5	7%	300
Public administration	5.1	7.5	47%	2,400

Source: Statistics Canada. Table 282-0061.

6. Provincial Tax Impacts of a DMIP

As discussed in Section 5 above, the main reason to offer a DMIP is to level the playing field for digital media development in the province. Currently, a company in New Brunswick developing digital media products is at a competitive disadvantage compared to most other provinces in Canada. It is a fundamental barrier to the development of the industry.

There are those who suggest a DMIP is a money losing proposition for provincial governments because more money is provided to the firms through the DMIP than they get back through incremental tax revenues from the economic activity generated by those firms. It is certainly the case that some of these programs look to be money losers for government but it doesn't have to be the case.

Digital media incentive programs are normally structured as a rebate on eligible labour costs associated with digital media development. The chart on this page (right) and Table 6 on the following page shows the application of an example digital media incentive program and its impact on provincial tax revenues. In the scenario presented, the company would generate $2 million in revenue and face a total labour cost of $1.26 million (or 80 per cent of total expenses before operating profit). This example assumes a labour-intensive development process[8]. A lower labour cost would translate into a lower DMIP.

In this model, 25 per cent of labour costs would be ineligible for the DMIP (management, administrative, marketing staff). The model assumes a 30 per cent DMIP on eligible labour costs and assumes a typical profit margin for the industry.

Based on these parameters, we can use Statistics Canada and other data sources to estimate the taxes that would flow back to provincial coffers from the project. In this model, an estimated $283,000 in taxes would flow back to the provincial and local governments – almost completely offsetting the DMIP of $285,000.

Sample DMIP Tax Impact Analysis

Revenue:	**$**	**2,000,000**
Eligible labour cost	$	950,000
Ineligible labour cost		310,000
Total labour cost	$	1,260,000
Net: DMIP (30% of eligible)		*285,000*
Net labour cost	$	975,000
Overhead and other costs:		600,000
Total costs (net of DMIP)	$	1,575,000
Net operating profit	$	425,000
Direct Tax Inflow to NB Gov:		
Corporate tax	$	44,625
Direct personal income tax		109,620
Direct HST		65,520
Other taxes	$	63,463
Tax inflow	**$**	**283,228**
Net cost to provincial government of the DMIP	***$***	***1,772***

**See Table 6 below*

In other words, the tax dollars expended through the DMIP are recuperated through new, direct incremental taxes raised in the economy.

This tax analysis is only based on *direct economic activity only*. For each direct job in the industry, another 0.5 jobs (FTE) is created elsewhere in the provincial economy. In the scenario above, any new *taxes generated on indirect economic activity would be a net benefit to the provincial tax coffers.* Using Statistics Canada multiplier estimates for the software sector in New Brunswick, indirect taxes to the provincial government in this model would be more than $42,000 (see Table 6 below).

[8] Across the software development industry in the province, labour costs are on average 55-60 per cent of total costs.

Table 6: Net Provincial Tax Analysis - Sample Application of a Digital Media Incentive Program

		Notes:
Revenue:	**$2,000,000**	
Eligible labour cost	$950,000	1
Ineligible labour cost	310,000	2
Total labour cost	$1,260,000	
Net: DMIP (30% of eligible)	*285,000*	
Net labour cost	$975,000	
Overhead and other costs:	600,000	3
Total costs (net of DMIP)	$1,575,000	
Net operating profit	$425,000	4
Direct Tax Inflow to New Brunswick:		
Corporate tax	$44,625	5
Direct personal income tax	109,620	6
Direct HST	65,520	7
Other taxes	$63,463	8
Tax inflow	**$283,228**	
Net cost to provincial government of the DMIP	**$1,772**	
Indirect Tax Inflow to New Brunswick:		9
Indirect HST	$13,104	
Indirect personal income tax	$13,608	
Other indirect taxes	$15,429	
Total indirect taxes (provincial)	**$42,141**	

Notes:

1. Assumes total labour costs (before the DMIP) at 80 per cent of expenses (before operating profit).
2. Ineligible labour cost in this model includes management, marketing and other administrative-related wages.
3. Overhead and other costs include real estate, equipment leases, utilities and other operating expenses.
4. In this sample model, with the DMIP the company generates a solid 21 per cent operating profit margin.
5. The corporate tax estimate assumes the company pays 10.5 per cent on profit before tax (the NB rate in 2011). It does not include other tax abatement programs that could be applied to corporate tax.
6. The direct income tax is based on Statistics Canada household expenditure and income tax tables for 2009. It assumes an average salary level of $75,000/year.
7. The direct HST paid is based on the provincial average HST collected as a percentage of total provincial income.
8. Based on Statistics Canada Input/Output tables for the software development industry (NAICS 51121). Statistics Canada calculates the estimated taxes associated with production and products such as property, gas, capital, sales (not on employment income as shown above) and other taxes and fees. The rate calculated per $1.00 of industry output and includes federal and provincial taxes. The figure shown here is an estimate of the NB portion of the taxes only.
9. Indirect tax estimates calculated using the indirect employment income from Statistics Canada Input/Output tables for the software development industry (NAICS 51121). On indirect income, the effective personal tax rate was lowered in line with the overall average wage across New Brunswick.

7. The Value Proposition for Digital Media & Game Development

Digital media incentive programs alone are not enough of an incentive to foster a growing and dynamic digital media and game development cluster. Communities need to offer a variety of comparative advantages both at the firm level (cost environment, etc.) and at the individual level (to entice talent to move to the community and stay here). With the addition of a DMIP, the other components of the value proposition for digital media and game development in Greater Moncton are quite strong.

7.1 Competitive Tax Environment

New Brunswick has a competitive corporate tax environment for firms in the digital media and game development sector. Small businesses, those with less than $500,000 in earnings, face a provincial corporate income tax rate of only five per cent. Firms with earnings above $500,000 per year in New Brunswick face a provincial corporate income tax rate of only 10.5 per cent – among the lowest in Canada.

In the sample cost model shown in Table 6 above, the firm would have a $425,000 pre-tax profit. They would face a provincial corporate income tax bill of $44,625 in New Brunswick compared to $68,000 in Prince Edward Island and Nova Scotia. The tax savings in New Brunswick goes into the pockets of the owners/shareholders of the digital media firm.

Table 7: Provincial Corporate Income Tax Rates (2011)*

Province:	Rate:	Taxes owed on $425,000 in Profit
PE	16.0%	$68,000
NS	16.0%	$68,000
NL	14.0%	$59,500
ON	12.0%	$51,000
MB	12.0%	$51,000
SK	12.0%	$51,000
QC	11.9%	$50,575
NB	**10.5%**	$44,625
AB	10.0%	$42,500
BC	10.0%	$42,500

**for active business income.*

Source: Ernst & Young.

In addition, the province offers tax-based incentive programs to encourage small businesses to invest in their firms and there are research and development tax credit programs for innovative new product/service development activity.

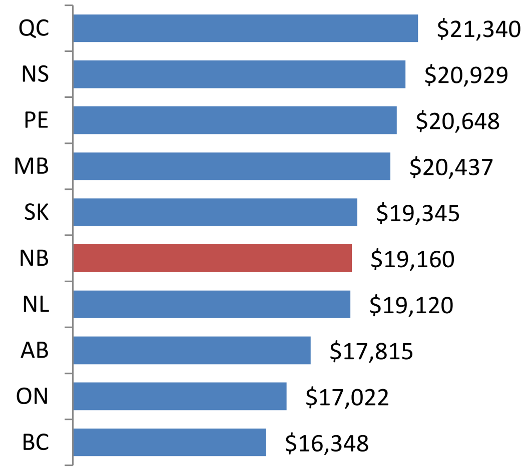
It is also important to note that the income tax environment for individuals in New Brunswick is better than Prince Edward Island, Nova Scotia and Quebec – three key competitors in the digital media and game development industry.

As shown in the chart, the tax bill faced by a person earning $75,000 per year in New Brunswick would be $2,000 less than the tax bill that person would face in Quebec and more than $1,500 lower than Nova Scotia. This is a tangible advantage New Brunswick offers over its competition.

Although tax rates are lower in Ontario, Alberta and British Columbia, other costs associated with living in those provinces are much higher - including housing. In urban centres in Western Canada, the monthly rent on a similarly sized apartment can be more than double the cost in Greater Moncton.

Overall, the tax and cost of living environment in Greater Moncton is a key selling feature for both companies and their employees.

Comparative Income Tax Bill (2011)*
Salary level = $75,000/year



**shows the personal income tax bill in each province before deductions.*
Source: Statistics Canada. Table 111-0030.

7.2 Competitive Operating Cost Environment

Greater Moncton offers firms in the digital media and game development sector with a competitive operating cost environment compared to other regions where the industry has a significant presence. The 2010 KPMG Competitive Alternatives report evaluated the full costs of operating a Web & Multimedia Content Development Centre in over 100 locations around the world. The sample development centre featured 110 staff and total revenue of $18.9 million per year.

Table 8 below shows the estimated profit and profit margin from this sample Web & Multimedia Content Development Centre in Moncton compared to other communities where the digital media and game development sector is growing.

Greater Moncton is the most profitable jurisdiction among the benchmark group with a net profit after tax of $5.4 million or 28 per cent (of revenue). Fredericton was the second best cost location followed by Charlottetown. In this model, Greater Moncton has a distinct cost advantage over Halifax (nearly $1 million worth of higher profit), Toronto and Vancouver. The cost advantage over U.S. locations is even more pronounced.

Of course, this is only a static model based on average input costs and doesn't account for productivity and other factors. However, it is a clear indication that digital media and game development firms will face a very competitive operating cost environment if they locate in New Brunswick.

Table 8: Comparative Web & Multimedia Content Development Centre Costs (USD$'000)
Profit and Profit Margin Comparison

	Net profit after tax (NPAT) (000s)	NPAT (% of Revenue)
Moncton	**$5,369**	**28%**
Fredericton	$5,260	28%
Charlottetown	$4,648	25%
Halifax	$4,452	24%
Vancouver	$4,184	22%
Toronto	$3,750	20%
Denver	$2,729	14%
Chicago	$2,484	13%
Boston	$1,968	10%
San Francisco	$1,372	7%

**Based on a 110 person Web & Multimedia Content Development Centre with $18.9 million in annual revenue.*
Source: KPMG Competitive Alternatives 2010 Cost Model.

7.3 The Talent Pipeline: Universities and Colleges

New Brunswick's education sector is an important part of the New Brunswick value proposition for the digital media and game development industry. There are a number of universities, public community colleges and private colleges that feed the industry with new talent each year. The following provides a summary of several of these institutions.

McKenzie College

Moncton-based McKenzie College has been turning out graduates for the digital media and game development industry for more than a decade. In addition to diploma programs in graphic design, visual arts and photography, McKenzie College offers two programs of specific interest to the game development industry:

- **Game Development:** This 10-month program will provide students with the skills necessary to build flash games and publish them online. They learn how to design games, produce graphics, integrate sound and program inter-activity. They also explore topics including game concept development, documentation, storyboarding and more.
- **Mobile Design:** This 10-month program helps students gain the technological advantage with support courses offered by the BlackBerry Academic Program, iPhone SDK Development and the Android Developer Program. The Mobile Development course teaches students about available development tools and techniques, which can enable them to develop applications for the iPhone, Blackberry and Android platforms.

New Brunswick Community College/ Collège communautaire du Nouveau-Brunswick

The province's public community colleges have been a feeder for the information technology sector for more than 20 years. The community college in Miramichi has been a particularly important talent incubator for the digital media and game development sector because of its Electronic Game development diploma program. Graduates from this program can be found in game development studios across North America (see Section 5).

There are many other related diploma programs in graphic design, computer animation, Internet application development, etc. The following table summarizes the diploma programs providing turning out dozens of graduates each year.

Table 9: Related Digital Media Diploma Programs – NBCC/CCNB

Program Name:	School:
Electronic Game - 3D Graphics	NBCC - Miramichi
Electronic Game - Design	NBCC - Miramichi
Graphic Design	NBCC - Miramichi
Information Technology: Internet Application Development	NBCC – Moncton
Production and 3D Animation	CCNB – Dieppe
Computing Technology - Web Development	CCNB – Dieppe
Animation and Graphics	NBCC - Miramichi
Art Fundamentals	NBCC - Miramichi
Digital Photography	NBCC - Woodstock

New Brunswick Universities

There are five universities in New Brunswick with over 22,000 full and part time students. Three of those universities are in the Greater Moncton region: Université de Moncton, Mount Allison University and Crandall University. In addition, the University of New Brunswick has a satellite facility in the community. There are more than 20 different university degree courses in information technology and related disciplines. Table 10 below shows a summary of the programs.

Table 10: Related University Degree Programs

Program Name:	Program Level:	University:
BA in computer science	Bachelor's degree	Mount Allison University
BSc in computer science	Bachelor's degree	Mount Allison University
Bachelor of music	Bachelor's degree	Mount Allison University
Bachelor of fine arts	Bachelor's degree	Mount Allison University
Baccalauréat ès sciences en informatique	Bachelor's degree	Université de Moncton
Baccalauréat en informatique appliquée	Bachelor's degree	Université de Moncton
Maîtrise ès sciences en informatique	Master's degree	Université de Moncton
Certificat en informatique	Undergraduate level certificate/diploma	Université de Moncton
Maîtrise ès arts (orientation)	Master's degree	Université de Moncton
Baccalauréat en arts visuels	Bachelor's degree	Université de Moncton

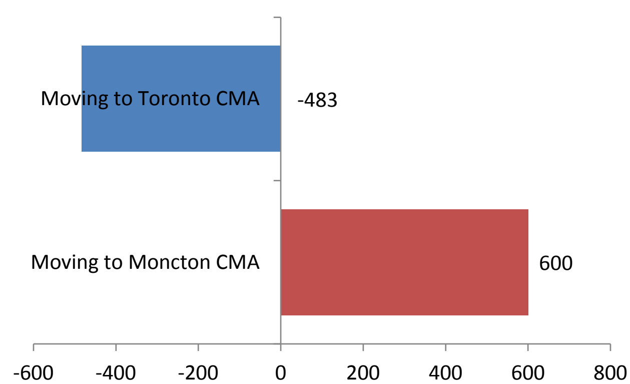
Table 10: Related University Degree Programs (cont.)

Program Name:	Program Level:	University:
Baccalauréat en art dramatique	Bachelor's degree	Université de Moncton
Bachelor of Computer Science	Bachelor's degree	University of New Brunswick
BSc in Computer Science	Bachelor's degree	University of New Brunswick
BSc in Geomatics Engineering/Bachelor of Computer Science (BCS)	Bachelor's degree	University of New Brunswick
Bachelor of Computer Science (BCS)/BSc in Engineering (Geomatics)	Bachelor's degree	University of New Brunswick
Bachelor of Information Systems	Bachelor's degree	University of New Brunswick
Bachelor of Information Sciences	Bachelor's degree	University of New Brunswick
PhD in computer science	Doctorate	University of New Brunswick
Master of computer science	Master's degree	University of New Brunswick
Certificate in Computer-Telephony Integration	Undergraduate level certificate/diploma	University of New Brunswick
Bachelor of business administration with major in e-Commerce	Bachelor's degree	University of New Brunswick
Bachelor of business administration with concentration in e-Commerce	Bachelor's degree	University of New Brunswick
Certificate in electronic commerce	Undergraduate level certificate/diploma	University of New Brunswick
Certificate in E-Business	Undergraduate level certificate/diploma	University of New Brunswick

Source: Association of Universities and Colleges of Canada.

7.4 The Talent Pipeline: Attracting Skilled Workers

Migration Between Moncton CMA and Toronto (2006-2008)



Source: Statistics Canada. Table 111-0030.

Historically, New Brunswick has been a net exporter of skilled workers to other provinces and countries. However, much of this exodus has been related to a lack of opportunity for young skilled workers in the province.

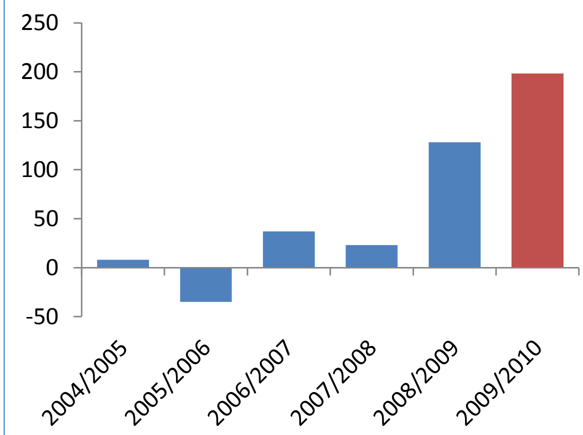
Greater Moncton is a good example confirming that people will move here from other parts of Canada and the world for good job opportunities. Because of an expanding base of good quality career opportunities in recent years, the community has a track record of being able to attract creative talent from across New Brunswick and the rest of Canada.

For the most recent period of available data (2006 to 2008), Greater Moncton had a net in-migration from Toronto. Over the three year period, 483 people moved out of Greater Moncton to Toronto while 600 moved in the other direction.

Immigration into Greater Moncton is also on the rise. The number of people moving into the community from outside Canada has more than tripled in recent years compared to the 1990s. There are now an average of close to 500 new immigrants settling in Greater Moncton each year.

The migration to Greater Moncton is increasingly younger professionals. In the early 2000s, the community witnessed a net out-migration of people in the 25-34 year old age group. By the latter part of the decade, there has been a reversal and in the 2009/2010 year, there was a net positive migration of some 200 people in that age group.

Net Interprovincial Migration: Moncton CMA (25-34 Age Group)



Source: Statistics Canada. Table 051-0047.

7.5 The Talent Pipeline: Bilingual Workers

One of the distinct advantages that Greater Moncton offers the industry is its large pool of bilingual workers (English and French). Nearly 50 per cent of the population speaks both languages and that per centage rises to more than 60 per cent among the younger population. In addition, Greater Moncton is home to more than 100 professional language translators and one of the largest multilingual language translation companies in Canada (CLS Lexi-tech). For companies looking to develop digital media and games in English and French, Moncton is an ideal location.

7.6 Joining an Existing Base of ICT Industries

Digital media and game development companies setting up in Greater Moncton join a growing industry of more than 230 firms and 2,000+ skilled workers. There are large firms such as Speilo International, CGI and Thomson Reuters and a number of dynamic smaller firms such as Gogii Games and Pitch Mobile. In addition, a number of large firms in other sectors have large IT development centres/help desks including Medavie Blue Cross and RBC.

8. Conclusion

The digital media and game development sector in Greater Moncton is small but poised to grow. Many of the elements needed to foster growth are in place such as a talent pipeline, a conducive operating and tax environment as well as an existing cluster of information technology and communications firms. In addition, the industry across Canada and North America is in rapid growth mode due to the proliferation of devices – particularly mobile platforms on which the games are played.

A growing digital media and game development sector in the community and in the province would provide many benefits including support for the broader creative industries – writing, acting, graphic design; local job opportunities for college and university graduates; and the attraction of skilled, creative talent from outside the province.

However, the lack of a digital media incentive program (DMIP) is a significant barrier to the growth of this industry. Because most other provinces offer such a program, there is a fundamental roadblock to the industry growing in the province. The New Brunswick government has recognized this deficiency and referenced the need for a program in the recent Speech from the Throne.

Table 11: Levelling the Playing Field – Summary
With the DMIP – New Brunswick will be competitive for digital media studios

Value Proposition Feature:	Moncton	Halifax	Charlottetown
Digital Medial Incentive Program	No	Yes	Yes
Software development talent pool	Yes	Yes	Yes
Local cluster of creative talent (writers, actors, musicians, etc.)	Yes	Yes	Yes
Bilingual software development and creative talent pool	Yes	No	No
Digital media supply chain (video, audio, post-production)	Yes	Yes	Yes
Lowest corporate tax rate in region	Yes	No	No
Lowest personal income tax rate in region	Yes	No	No
Highest ICT profit margin in region*	Yes	No	No
Track record of attracting creative talent**	Yes	Yes	No
Digital media post-secondary education opportunities	Yes	Yes	Yes

**Based on KPMG 2010 Competitive Alternatives Report.*
***Based on interprovincial migration data from Statistics Canada.*

8.1 Recommendation

The lack of a DMIP is a major barrier to developing the digital media industry in New Brunswick. Enterprise Greater Moncton recommends the provincial government *implement a DMIP program that is modelled on best practices across Canada and competitive with other provinces in eastern Canada*. The DMIP should be *applicable to all new, eligible project work after the program has been put in place*. The DMIP *should be put in place for three years and reviewed after that time frame* to determine its impact on the growth of the digital media and game development industry in New Brunswick.