

Invest Vancouver Can Export - Digital Media and Entertainment Sector Profile

Final Report

June 2024

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Executive Summary

Global Digital Media & Entertainment Outlook

Invest Vancouver commissioned Nordicity to develop a data-driven sector profile that identifies and articulates the economic strengths and opportunities within the Digital Media & Entertainment sector (hereafter referred to as “DM&E”) in Metro Vancouver.

The DM&E sector is a dynamic sector that consists of **video games, immersive media (AR/VR/MR), animation, and visual effects (VFX)**. The sector encompasses a wide array of activities, technologies, and content delivery methods that utilize digital platforms to entertain, inform, and engage audiences. From streaming services and online gaming to virtual reality experiences and social media content, the sector continues to evolve rapidly, driven by advancements in technology and shifting consumer preferences.

DM&E holds a prominent position in the global market as an economic force. In 2022, the global DM&E sector market was valued at approximately \$2.32 trillion, with a significant portion of this growth coming from the video games sub-sector.

Table 1: Global revenue and projected growth for the DM & E Sector (in USD)

Sector	2023 Global Revenue	Projected Growth
Video Games	\$184 B	Anticipated to reach \$205.7 B by 2026
Animation and VFX	\$164 B	CAGR of 9.43% to \$284.6 B by 2028
Immersive Media	\$32.1 B	CAGR of 12.6% to \$58.1 B by 2028

Source: Revenue and projected growth metrics found in market reports by IBIS World, Research and Markets, Mordor Intelligence, Newzoo, Zion Market, Market Research, and Statista Market Insights respectively

Key Success Factors

There are four **key drivers of success** identified in Digital Media & Entertainment industries in jurisdictions across the world. These four factors are also main indicators for investors when investing in different international jurisdictions.



Metro Vancouver's Competitive Positioning

To establish Metro Vancouver's competitive edge, we compare it against **four globally recognized DM&E hubs**: Toronto, Montreal, Los Angeles (US), and London (UK). The competitive analysis evaluates Metro Vancouver's positioning based on the **four success indicators** crucial for international jurisdictions. Namely, Vancouver's advantage lies in its collaborative ecosystem and access to markets, while Toronto and Montreal compete with tax incentives. Meanwhile, LA benefits from a strong film and TV industry, and London leads in Europe with robust incentives.

	Vancouver, CA	Toronto, CA	Montreal, CA	Los Angeles, US	London, UK
Ecosystem	Vancouver has one of the strongest industry association supports with two organizations dedicated to researching and promoting DM&E – DigiBC and MPPIA	Toronto benefits from Film Ontario and other industry associations, offering targeted industry support to the creative industries.	Montreal is supported by investment associations that promote the industry. Quebec also benefits from La Guilde for video games.	Los Angeles does not have industry associations specifically dedicated to promoting DM&E, but it has an Economic Development Corporation that promotes the industry.	London benefits from access to industry associations in the UK that research, promote, and advocate for the DM&E industry.
Financial Incentives	BC has a specific digital media tax credit at 17.5% that can be complemented by others, such as the R&D tax credit.	Ontario has one of the most competitive digital media tax credits in Canada between 35-40%, alongside Montreal.	Quebec has one of the most competitive tax credits for multimedia production at 26.25%- 37.5%, on par with Ontario.	California does not have a specific digital media tax credit, but it has other types of credits that could support DM productions as the heart of DME financing.	The UK's digital media tax credits are among the highest among the four jurisdictions from 34-39%, competing with Ontario and Quebec.
Talent	Educational institutions and training programs in each jurisdictions are increasingly shifting focus to specialized curriculum. All three jurisdictions leverage Canada's convenient and accessible immigration policies to attract and retain talent, along with specific programs like the Provincial Nominee Programs, which facilitate the process for professionals. Importantly, these programs offer pathways to permanent residency and eventually citizenship.			California offers visas for skilled workers, but it does not guarantee permanent status, thus making it less attractive for attracting foreign talent.	The UK offers visas for skilled workers, but it does not guarantee permanent status, thereby making it less attractive for attracting foreign talent.
Access to Markets	Strategic location on the Pacific Corridor and its time zone alignment with California provides advantageous trade links to global entertainment and tech hubs.	Toronto's geographic proximity to major North American cities and extensive airport services connect it seamlessly with key markets.	Montreal's highly bilingual and trilingual workforce make it an ideal location for multicultural and international media production.	Los Angeles leverages its robust film industry ecosystem and proximity to Silicon Valley to foster rapid adoption of multimedia technology.	London's prime location and time zone offer a gateway for targeting European markets and access to emerging markets in Africa.

DM&E Sub-Sectors in Metro Vancouver

Metro Vancouver’s thriving DM&E sector encompasses four sub-sectors, each contributing uniquely to the region’s economic landscape. These sub-sectors include Video Games, Immersive Media, Animation, and Visual Effects, each boasting its own set of strengths and opportunities.

	Video Games	Immersive Media	Animation	Visual Effects
Ecosystem	BC is home to 160 video game companies including industry giants like EA, Nintendo, Microsoft Studios, which draw new ventures into the ecosystem.	BC hosts 230 immersive media companies , only second to the Bay Area/Silicon Valley. Vancouver is home to Vu, Canada’s largest VR/AR/MR conference.	Vancouver is home to over 50 animation studios including Disney’s only global animation production hub outside its California HQ.	Vancouver has 150+ VFX and animation businesses , including major VFX players like ILM which has 700 employees and Image Engine which has been in operation for almost 30 years.
Financial Incentives	BC Interactive Digital Media Tax Credit (IDMTC) offers 17.5% tax credit rate.	BC Interactive Digital Media Tax Credit (IDMTC) offers 17.5% tax credit rate.	BC’s Digital Animation, Visual Effects, and Post-Production (DAVE) offers 16% tax credit rate. Film Incentive British Columbia (FIBC): 35% Provincial Production Services Tax Credit (PSTC): 28%	
Talent	BC’s direct employment in video games grew to 8,700 FTEs in 2021.	In 2020, there were approximately 1,700 FTEs of direct employment in Vancouver.	8,000 VFX & Animation professionals in Vancouver. The industry generated 44,000 FTEs in direct and indirect employment in 2022 in BC. Top-tier education institutions and programs: VFS, Centre for Digital Media (CDM) offered by UBC, SFU, Emily Carr University, and BCIT.	
Access to Markets	Metro Vancouver’s strategic location provides easy access to West Coast of the US where a large portion of the industry in the country is located.	Canadian companies’ cautious approach towards adopting new AR/VR tech can limit domestic market growth.	Established film & TV industry in Metro Vancouver provides market channels for animation distribution and promotion.	Metro Vancouver is positioned as a one-stop-shop for production and post-production.

Metro Vancouver's Key Value Proposition



Future Considerations for Invest Vancouver

To bolster Invest Vancouver’s capacity to respond more effectively to investment enquiries related to DM&E sector and proactively engage with this dynamic and evolving industry, there are three strategic recommendations for future considerations.

1. Sector-specific Expertise

- **Expand research efforts to the sub-sector level** to enhance understanding of the global and Metro Vancouver’s trends and opportunities within the DM&E sector.
- **Facilitate cross-functional knowledge sharing sessions** across all teams within Invest Vancouver, partner agencies, and industry associations, to ensure that insights gained from expanded research efforts are effectively disseminated across all teams within Invest Vancouver.

2. Consistent Brand Identity & Unique Service Offering

- **Establish a clear and consistent brand identity** that positions Invest Vancouver as the “go-to” agency for companies looking to establish operations in the region.
- **Develop tailored service offerings** to meet the specific needs of different sub-sectors within the DM&E industry.

Sector-specific Expertise

In-depth, regional level data and knowledge repository & ongoing industry trends experts

Collective Advocacy

Ecosystem approach to enhance competitive funding, global market access, and talent development



3. Collective Advocacy

- **Foster an ecosystem-wide effort** to gather industry insights and concerns, **informing senior government** officials’ decisions regarding tax incentives, talent development initiatives, and regulatory frameworks.
- **Facilitate increased collaboration** among organizations, agencies, and communities through **sector-specific, B2B-focused conferences and events.**

1. Introduction

Introduction | Project Scope & Objectives

Invest Vancouver's mission is to position Metro Vancouver for success in a rapidly evolving global economy. Recognizing Digital Media & Entertainment as one of the high-opportunity industries in the Region, it is Invest Vancouver's mandate to attract strategic investment to this key sector. As such, Invest Vancouver commissioned Nordicity to develop a data-driven sector profile that identifies and articulates the economic strengths and opportunities within the DM&E sector in Metro Vancouver.

This sector report provides an overview of the DM&E sector, outlines key drivers for success, delves into sub-sectors with comparative study, and highlights compelling narratives to position Metro Vancouver as a leading global DM&E investment destination. While the spill-over effects from foundational sub-sectors such as E-sports and film & TV production influence the DM&E sector, they are not the primary focus of this report.

Key Objectives:

- Showcase the region's appeal to potential investors;
- Provide compelling narrative and key metrics for marketing materials;
- Bolster Invest Vancouver's capacity to respond more effectively to investment enquiries.

Sector Scope:

- *Priorities:*
 - Video Games, Immersive Media (virtual/mixed/augmented reality), Animation, Visual Effects
- *Second tier priorities:*
 - E-sports, Film & TV production

Introduction | Project Methodology

To achieve the objectives, Nordicity independently collects, analyzes, and reports on data collected from desk research, external and internal engagement (see Appendix A).

Methodological Notes

- Data Collection:
 - The study primarily focuses on post-COVID (i.e., 2020-2023) data to provide the most current insights into the DM&E sector. However, due to limited availability of public data, certain pre-COVID data has been included to inform the analysis. Despite the inclusion, the study assures that the overall trends and comparative analysis remain robust, offering insights into the sector's economic landscape over time.
- Comparative Analysis:
 - To conduct this analysis and summarize Metro Vancouver's competitive positioning, the project team selected four jurisdictions to compare Toronto, Montreal, Los Angeles, and London. These locations represent the sectors with which Metro Vancouver is currently competing in the investment attraction for DM&E and those that have recently or often implemented new incentives, thereby signaling that they are planning to compete in the DM&E sector.

Introduction | About this document

This document is structured in four parts, each contributing to the development of a sector profile for Metro Vancouver's DM&E investment attraction.

- Section 2: **“Understanding the DM&E Sector”** provides a more general understanding of Digital Media & Entertainment at the global and sectoral level exploring global market competition and key industry trends influencing the sector's development.
- Section 3: **“Attracting FDI in DM&E Sector”** identifies four key success drivers in DM&E industries, crucial indicators for investors making foreign direct investment (FDI) considerations in international jurisdictions.
- Section 4: **“Sub-sectors and Metro Vancouver's Competitive Positioning”** dives deeper into Video Games, Immersive Media, Animation, and Visual Effects, offering sub-sector overviews and comparing Metro Vancouver's competitive (dis)advantages to other global hubs.
- Section 5: **“Metro Vancouver's Key Value Proposition and Future Considerations for Invest Vancouver”** presents the key selling points that Invest Vancouver should highlight when attracting FDI to the region. Additionally, this section also discusses recommendations for bolstering Invest Vancouver's internal capacity.

The structure of this document is illustrated on the following page.

2. Understanding the Digital Media and Entertainment Sector

Understanding the DM&E Sector | Overview

Digital Media and Entertainment is widely recognized as one of the most dynamic and growing sectors of the global economy. This multifaceted industry encompasses a wide array of activities, technologies, and content delivery methods that utilize digital platforms to entertain, inform, and engage audiences. From streaming services and online gaming to virtual reality experiences and social media content, the sector continues to evolve rapidly, driven by advancements in technology and shifting consumer preferences.

The global digital media and entertainment sector is characterized by constant innovation, technological advancements, and a dynamic interplay between content creators and consumers. The industry's ability to adapt to evolving technologies and consumer behaviors continues to shape the way people around the world consume and engage with digital media and entertainment content.

DM&E Value Chain

The DM&E value chain encompasses a multifaceted process that begins with **inputs** such as creative ideas, technological innovations, and skilled labour (see Diagram 1). **Ideation** follows, where these inputs are conceptualized into content or products, leveraging the expertise of writers, designers, and developers. **Development** involves the actual creation or production phase, where content is crafted, refined, and polished using various tools and techniques. **Distribution** as the next crucial step, involves the dissemination of the finished products through channels like streaming platforms, theaters, or online marketplaces. Finally, **outputs** refer to the tangible results of this process, which can range from films, video games, and virtual experiences to advertising campaigns, educational content, and interactive media. Throughout this value chain, collaboration, innovation, and adaptation are key drivers that fuel the dynamic landscape of the DM&E industry.

Diagram 1: DM&E Value Chain



Understanding the DM&E Sector | Global Market Size

The DM&E sector addressed in the context of this profile is inherently global, characterized by an interconnected ecosystem encompassing companies, labour forces, markets, talent pipelines, and more, transcending international borders.

One recent projection suggests that the global DM&E sector market is valued at \$2.32 trillion in 2022 (*source: PWC*). Notably, the area experiencing significant growth is video games, with total gaming revenue expected to rise from US\$184 billion in 2023 to US\$205.7 billion by 2026. The figures underscore the substantial impact of DM&E as an economic force.

Table 2: Global revenue and projected growth for the DM & E Sector (in USD)

Sector	2023 Global Revenue	Projected Growth
Video Games	\$184 B	Anticipated to reach \$205.7 B by 2026
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Source: Revenue and projected growth metrics found in market reports by IBIS World, Research and Markets, Mordor Intelligence, Newzoo, Zion Market, Market Research, and Statista Market Insights respectively

Understanding the DM&E Sector | Sub-Sectors

Video Games are interactive software developed for entertainment, played by users via devices such as game consoles, smartphones, and computers. The video game industry covers a wide range of professions and activities, such as developing, creating, publishing, and distributing video games.

Immersive Media encompasses several types of technologies including virtual, mixed, augmented and extended realities. These technologies use diverse interconnected methods, tools, and applications to simulate a user's presence in an alternative or enhanced world. Immersive media can be applied across different fields including entertainment, education, healthcare, and training, to name a few.

Animation involves creating the illusion of motion or change by rapidly displaying a sequence of static images or frames. Animation is produced through computer-generated or hand-drawn physical imagery, stop-motion, or a combination of tools and techniques. Animation is widely used in various forms of entertainment and content such as movies, television, and video games. It serves as a powerful storytelling and communication tool, allowing creators to bring characters, objectives, and scenes to life.

Visual Effects include computer-generated imagery applied to live-action footage. Similar to animation, visual effects are widely used across various forms of entertainment and visual media such as film and video games. Visual effects have become an integral way to realize creative visions and bring stories to life through new innovative ways previously not possible.

Understanding the DM&E Sector | Key Industry Trends

Emergent Tech

The rise of new technologies like **large language models and generative AI** tools, such as ChatGPT and Midjourney, has both optimized creative workflows and caused tensions, as seen in the 2023 WGA strike barring AI use in writing. Video game development engines like Unity are expanding beyond gaming, being employed in film, automotive design, and other sectors, showcasing the convergence of technology across industries. Additionally, **augmented and virtual reality technologies** are extending beyond gaming to diverse settings like museums and sports arenas, highlighting the potential for **inter-sectoral collaboration in the creative economy**.

Investment Climate

The investment landscape is marked by **volatility, high inflation, and risk-averse** investor behaviours. High inflation is exacerbating cost pressures for companies, contributing to heightened risk aversion within the sector as businesses seek to mitigate financial uncertainties. Moreover, buyers of and investors in creative properties, such as games publishers, and linear media platforms, have become increasingly hesitant to invest in IP -- requiring **more developed pitches alongside stronger connections to existing audiences**.

Labour Practices

The DM&E sector is undergoing adjustments in response to **post-pandemic market recovery**, with immersive tech developers finding growth opportunities through new avenues while major video game companies, previously rapidly expanding, are now reducing workforces. Headlines highlight **waves of layoffs** from game publishers, tech giants like Microsoft, and studios owned by Embracer and DreamWorks. Amid these course corrections and stabilization attempts, localized research by industry associations are pointing to the need for companies to **prioritize strong workforces and talent** to secure and appeal to entrepreneurs and skilled workers in the dynamic market.

Audience Behaviour

Taxed by **inflation**, weary from the **lingering effects of the pandemic**, and facing **the uncertainties of war and geopolitical instability, consumers are pulling back**. This slowdown is pushing companies to reset expectations, refocus inward, and seek ways to recharge growth. They are doing so by tapping into many **geographical and sectoral hotspots** that offer opportunities and by harnessing emerging tech such as AI.

3. Attracting FDI in DM&E Sector: Key Success Factors

Key Success Factors | Framework

The four factors described in this section are **key drivers of success** in Digital Media & Entertainment industries in jurisdictions across the world. These four factors are also the main indicators for investors when investing in different international jurisdictions.

This broad framework should allow the replication of successes examined around the world while providing room for flexibility and finetuning to the specific features of Metro Vancouver' DM&E sector and each sub-sectors introduced in the following section.

A **colour code** in this document, as seen in Diagram 2 on the right, will help readers find materials most relevant to them. As such, if you are a company looking for information about the region's labour force and talent landscape, you can easily navigate this report and zero in pages that include a green label on the right side.

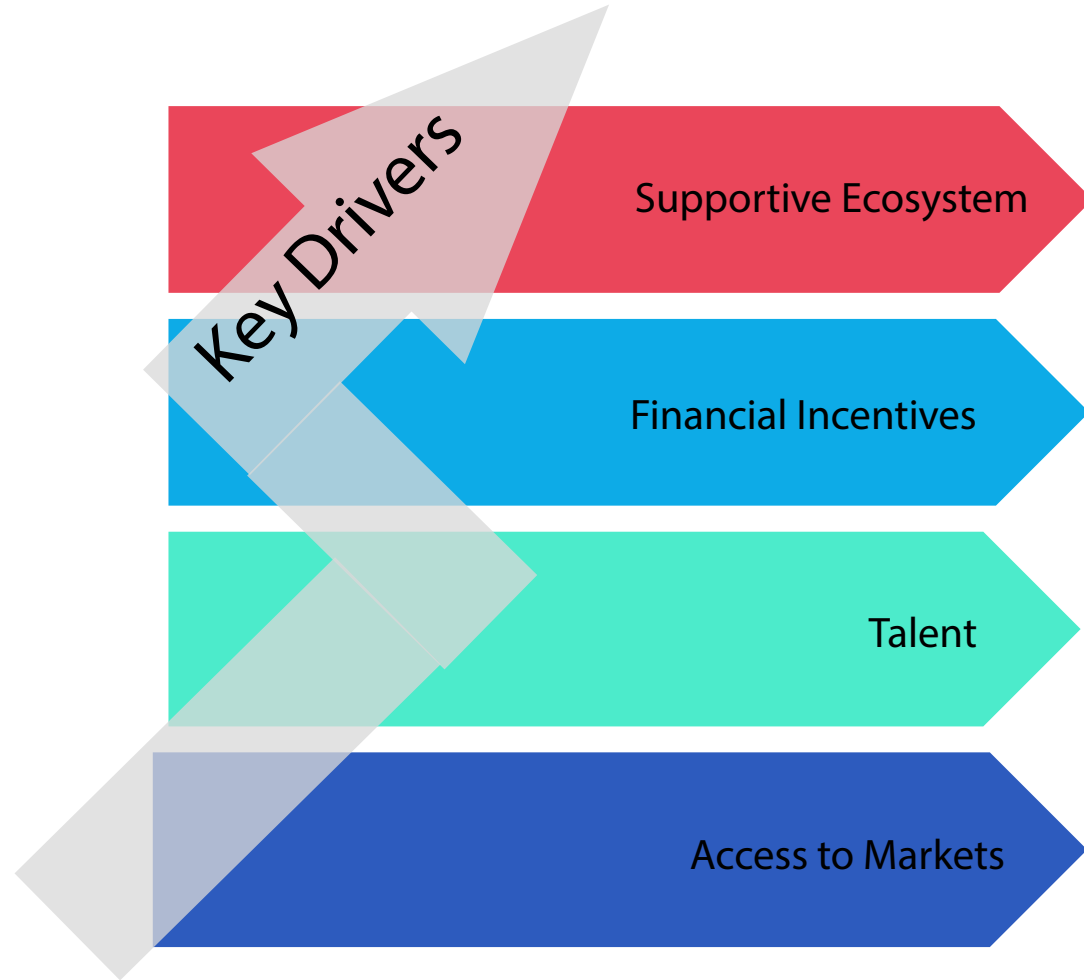


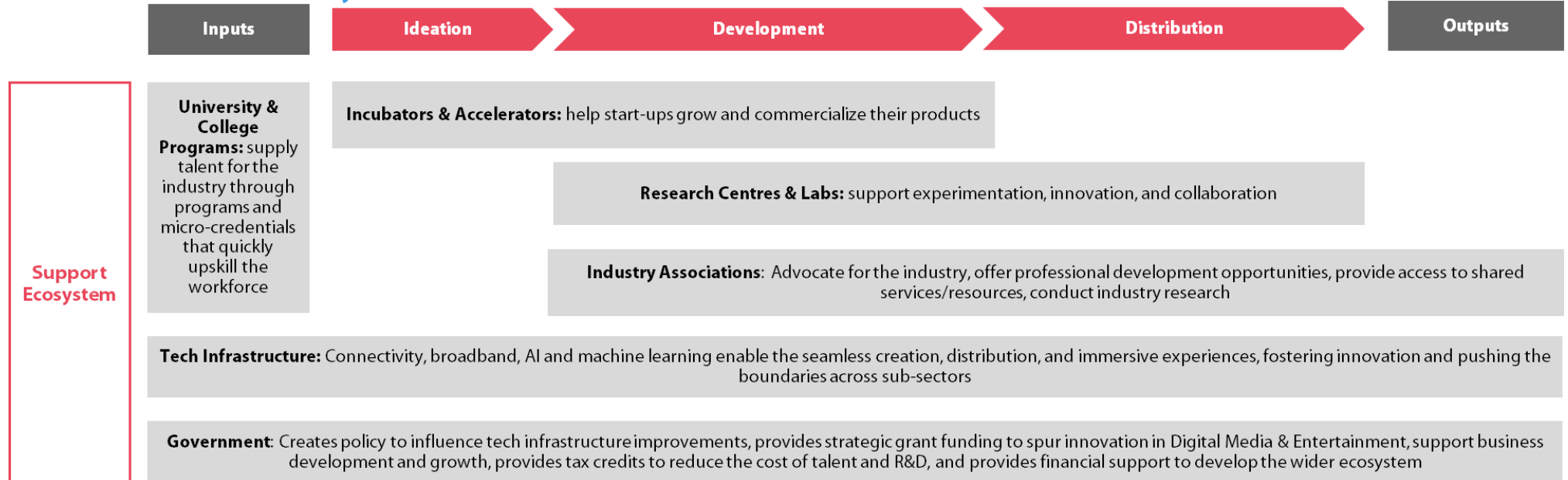
Diagram 2: DM&E Key Success Drivers

Key Success Factors | Supportive Ecosystem

A supportive ecosystem, inclusive of clusters of business activity, educational institutions, research centers, accelerators, and industry associations, helps shape the overall business environment, which justifies investment in a jurisdiction. See Diagram 3 below. The presence and development of a robust and supportive DM&E ecosystem serves as the cornerstone for the following three key drivers. A supportive ecosystem:

1. provides fertile ground for creative endeavors and enables government programs and **financial incentives**
2. allows an environment where **talent** can thrive, and
3. facilitates **access to a diversified geographic market** portfolio with high potential for continued revenue growth.

Diagram 3: DM&E Value Chain and Ecosystem



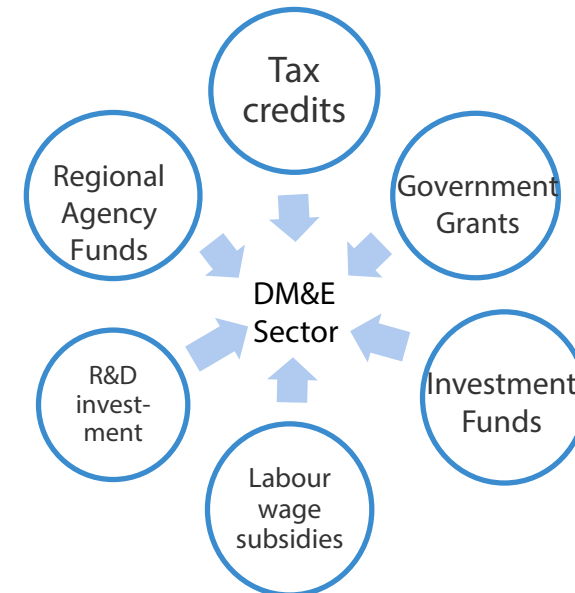
Key Success Factors | Financial Incentives

Financial incentives stabilize businesses by **diversifying their cash resources** and enabling them to **invest in growth and innovation**. Financial incentives are particularly important in the DM&E industry, which requires significant investment. Access to public programs, such as labour wage subsidies and other tax incentives, allows for DM&E companies to reduce operating costs and remain competitive.

Many jurisdictions compete directly by offering financial incentive programs tailored to the needs of the DM&E industry. These programs, including tax credits and direct public funding, aim to attract FDI and support the growth of local ecosystem. Factors such as the types of incentives offered, posted tax credit rates, annual allocation, and guaranteed funding if eligible are key considerations for businesses when choosing where to invest.

- **Key benefits** of financial incentives:
 - Cost reduction: reducing the operational costs related to infrastructure, production, and business operations
 - Job creation and talent retention: offering competitive wages and benefits, creating job opportunities within the sector
 - Catalyst for investment: attracting foreign and domestic investors with the availability of financial support from the public
- **Common sources** of financial incentives (Diagram 4 on the right)

Diagram 4: Common sources of financial incentives



Key Success Factors | Talent

Talent is a major driver for FDI into a jurisdiction as it is the key input to DM&E companies. A robust talent pool and sustainable talent pipeline form the backbone of the DM&E sector, contributing to creative outputs that define this sector.

Talent pool

- **Existing professionals with expertise** ranging from animation and visual effects to video games and XR, encompassing **a variety of levels from junior to senior positions**, contribute significantly to the tech innovation and business growth.
- A strong talent ecosystem encourages **collaboration across disciplines**, leading to sharing of ideas and skills. The interdisciplinary approach can result in groundbreaking projects that transcend traditional boundaries. The fusion of gaming expertise with AR/XR tech, for example, has given rise to a more immersive experience and novel forms of entertainment.
- Other factors including quality of life and cost of living are also contributing to talent retention.

Talent pipeline

- **Academic institutions and microcredential training** ensure a continuous influx of skilled professionals. Specialized programs for upskilling and adaptation to emerging technologies positions the future generations to meet the demand of growing market.
- Favorable **immigration policies** provide an open talent pipeline bringing a wealth of perspectives and expertise. This **culturally diverse and dynamic international talent pool** not only enhances the global competitiveness but also contributes to the creation of content with broader appeal.
- A relatively **young demographic** with a strong interest can transition from users to talents in this sector.

Equity, Diversity, Inclusion and Accessibility (EDIA)

- EDIA fosters a **diverse workforce**, ensuring representation from various backgrounds, perspectives, and experiences within the industry.
- Inclusive hiring practices and accessibility measures create opportunities and **pathways for underrepresented groups** to thrive in the DM&E sector.

Key Success Factors | Access to Markets

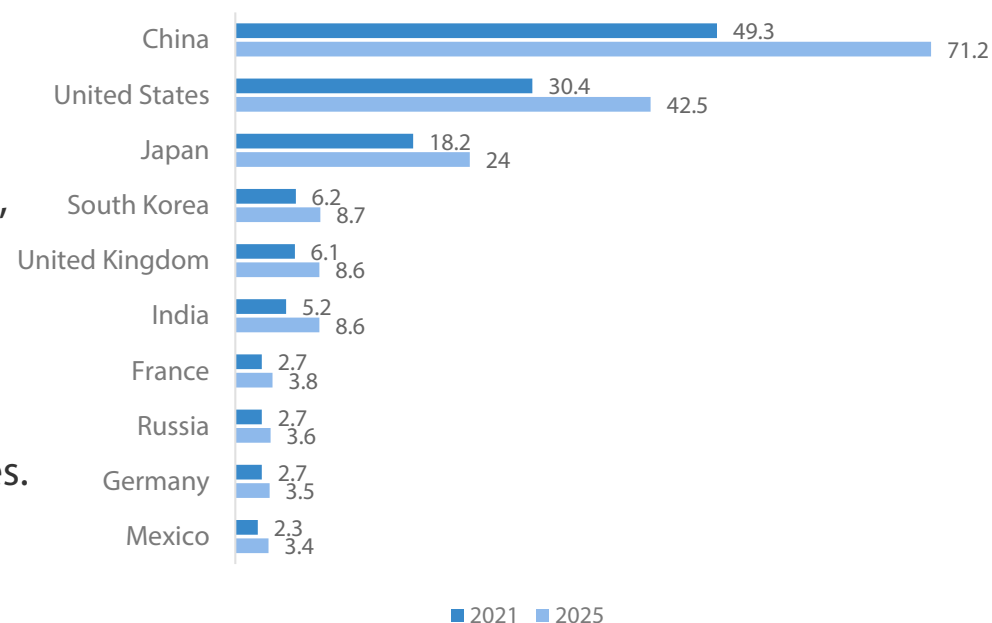
Access to markets is critical to business success, as customers generate the revenues and profits essential for sustained operations. In the DM&E sector, proximity to the key industry players and a large audience offers significant advantages.

For example, Diagram 5 on the right shows the world's top video games markets (e.g., China, U.S., Japan, South Korea), and being geographically located near or strategically connected with these countries would provide better access to business opportunities.

- **Proximity to consumers:** Closeness to major markets where products are consumed ensures that media products and virtual experiences can reach a widespread audience. Companies located in jurisdictions with strong market access are better positioned to distribute content, attract investment, and establish global brand presence.
- **Geographic location:** Strategic location near major markets in this industry, such as North America and specifically Los Angeles, offers convenient access to engage with key stakeholders and major industry players. This facilitates seamless collaboration with international partners, considering time zone factors. The collaboration with key players enable cross-cultural creativity that resonates with diverse audiences.
- **Geopolitical positioning:** Jurisdictions that facilitate easy market access through trade agreements and business-friendly policies create a supportive environment for international business and cultural exchanges.

Diagram 5: The World's top 10 video game markets

The World's Top 10 Video Games Markets
Estimated revenue of video games per country
(in billion U.S. dollars)



4. Sub-Sectors and Metro Vancouver's Competitive Positioning

Common Key Success Factors Across Sub-Sectors

To establish Metro Vancouver's competitive edge and formulate compelling value proposition, this section conducts a thorough comparison with **four globally recognized DM&E hubs**: Toronto, Montreal, Los Angeles (US), and London (UK). The analysis delves into each of the **four sub-sectors**, evaluating Metro Vancouver's positioning based on the **four success indicators** crucial for international jurisdictions. The section begins by compiling common success factors identified across all four sub-sectors.

Supportive Ecosystem				
Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Invest Vancouver offers dedicated leadership in economic development, aiming to position the region for success in the fast-changing global economy, DM&E is one of the seven key sectors under Invest Vancouver's investment attraction mandate.</p> <p>DigiBC promotes BC's creative technology sector through advocacy, policy engagement, growth programs, talent development, events, and member benefits.</p> <p>Creative BC serves as a catalyst for BC's creative industry, leading research and supporting initiatives for a greener and more equitable digital media industry. Other organizations include MPPIA and Spark CG.</p>	<p>Ontario Creates is a provincial agency tasked with spurring economic development, investment, and collaboration in Ontario's creative industries.</p> <p>Invest Ontario is a government agency focused on driving investment and promoting economic growth in Ontario's key sectors.</p>	<p>Montréal International focuses on attracting foreign investment, international organizations, and skilled talent to Montreal, enhancing the city's global image.</p> <p>Investissement Québec is a government corporation dedicated to boosting investment, innovation, exports, and business competitiveness across Quebec.</p>	<p>The Los Angeles Economic Development Corporation (LAEDC) promotes economic growth in Los Angeles County, focusing on sectors like digital media.</p>	<p>London & Partners is London's agency for business growth and destination, with a mission to foster resilient, sustainable, and inclusive economic growth.</p> <p>Digital Catapult is the UK's leading authority on advanced digital technology, fostering industry adoption through collaboration and innovation to stimulate economic growth and opportunities.</p>

Common Key Success Factors Across Sub-Sectors

Financial Incentives				
Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Interactive digital media tax credit (IDMTC) - 17.5%</p> <p>Digital Animation or Visual Effects (DAVE) – 16%</p> <p>British Columbia Investment Capital Program Tax Credit (New Media Venture Capital) - 30%</p> <p>Individual and Corporate investors are entitled to a 30% tax credit</p> <p>Scientific research and experimental development (SR&ED) tax credit – 10%</p>	<p>Ontario interactive digital media tax credit (OIDMTC) - 35% to 40%</p> <p>Ontario innovation tax credit (OITC) – 10%</p> <p>Ontario research and development tax credit (ORDTC) - 3.5%</p>	<p>Tax Credit for the Production of Multimedia Titles (CTMM) - 26.25% to 37.5%*</p> <p>Tax credit for salaries and wages (R&D)- 14% to 30%</p> <p>Tax credit for private partnership pre-competitive research (R&D)– 14% to 30%</p>	<p>None specific to DM.</p> <p>The California Competes Tax Credit (CCTC) is an income tax credit available to businesses that want to locate in California or stay and grow in California. Over \$180 million is available in tax credits.</p> <p>California R&D Tax Credit- 15%</p>	<p>Audio-Visual Expenditure Credit (AVEC) 34% to 39%</p> <p>The UK Research and Innovation (UKRI) Challenge Fund: £2.6 billion of public money, with £3 billion in matched funding from the private sector.</p> <p>Research & Development Expenditure Credit (RDEC)- 20%</p>
<p>The Canada Media Fund promotes and finances Canadian content across all audiovisual platforms, dedicating \$366M to bolster Canada's television and digital media industry in 2023-2024 (<i>source: CMF</i>).</p> <p>Scientific Research and Experimental Development (SR&ED) tax incentive program has an Investment Tax Credit (ITC) that can reduce income tax payable at a rate of 15% to 35%.</p>				

*Data updated as of January 31, 2024

Common Key Success Factors Across Sub-Sectors

Talent				
Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Leading schools: Vancouver Film School (VFS), University of British Columbia (UBC), Centre for Digital Media (CDM), Capilano University, VanArts (Vancouver Institute of Media Arts), and British Columbia Institute of Technology (BCIT).</p> <p>BC Provincial Nominee Program (PNP) for foreign talent.</p> <p>BC offers the most favorable personal income tax rate among all five jurisdictions, with a rate of 7.7% at the average salary for a digital media professional (see Appendix C).</p>	<p>Leading schools: George Brown College, Centennial College, University of Toronto Scarborough (UTSC), and Toronto Metropolitan University.</p> <p>Ontario Immigrant Nominee Program (OINP) for foreign talent.</p>	<p>Leading schools: Concordia University.</p> <p>Québec Acceptance Certificate; CUSMA; Intra-company transfer, International experience Canada; Québec Simplified Process; Permanent immigration pilot program for workers in the artificial intelligence, information technologies and visual effects sectors.</p> <p>Montreal boasts the most bilingual and trilingual workforce, with 80% of workers being bilingual and 28% trilingual, making them well-prepared to produce multicultural content for global audiences (<i>source: Statistics Canada</i>).</p>	<p>Leading schools: University of Southern California (USC), UCLA School of Theater, Film and Television, and Los Angeles Film School.</p> <p>H-1B Visa: for skilled foreign workers in specialty occupations, including fields like animation and game development (3 years, extendable for 6 years).</p> <p>E-2 Treaty Investor Visa - For entrepreneurial digital creators that can create US jobs (5 years; can be renewed).</p>	<p>Leading schools: King's College London, UCL (University College London), London Metropolitan University, and Goldsmiths, University of London.</p> <p>Indefinite Leave to Remain (ILR):</p> <p>Tier 1 visa / UK work permit and Tier 2 of the points-based system: for the skilled professionals from overseas who have a valid job offer in the UK (after 5 years)</p>
<p>Canada's immigration policy (Temporary Foreign Worker - Global Talent Stream) allows skilled workers (e.g., producer, technical, creative and artistic director and project manager in video games) to receive work permits within two weeks.</p> <p>Other channels for immigration include STEM Express Entry, The Post-Graduate Work Permit for international students, and the Labour Market Impact Assessment (LMIA).</p> <p>All of these channels serve as pathways to Permanent Residency and eventually citizenship, offering speedier processes than in other jurisdictions.</p>				

Common Key Success Factors Across Sub-Sectors

Access to Markets				
Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Free trade agreements: North American Free Trade Agreement (NAFTTA) and the Comprehensive Economic Trade Agreement between Canada and the European Union.</p>			<p>North American Free Trade Agreement (NAFTTA) .</p>	<p>Location and time zone position London as a convenient hub for companies targeting European markets, with the added advantage of proximity to the emerging markets in Africa.</p>
<p>BC is a gateway to major global tech hubs, sharing the Pacific Corridor and California's time zone for convenient links to US tech centers. Vancouver's direct flights provide easy access to key creative technology locations in Asia, Europe, and Australia.</p>	<p>Proximity to New York, Chicago, Boston and Washington DC. Toronto is served by two airports, Toronto Pearson International and Billy Bishop, offering more than a thousand daily flights combined.</p>	<p>Montreal's location and time zone enable smoother collaboration across North American and European markets, while its multicultural, multilingual workforce offers a competitive edge in catering to global audiences.</p>	<p>LA's industry ecosystem, centered around a well-developed film industry, benefits from surrounding studios, talent agencies, law firms, venture backers, and film schools. Its rapid multimedia technology adoption and proximity to Silicon Valley further enhance its advantage.</p>	

Video Games | Overview

Video game industry is an established sector featuring a workforce of technical and creative skillsets, in-demand products and services, and growing economic influence. The video game industry is significantly shaped by the broader esports sector, with the competitive gaming scene driving innovations in game design, spectator experiences, and monetization strategies.

Three main types of **business models**:

- **Game development (original properties):** Studios conceptualize and develop new/original titles; value comes from game sales and resulting intellectual property (where IP can be further commodified).
- **Game development (fee-for-service):** IP holders can commission studios to produce games based on licenses they hold; may also provide on-demand or as-needed development services to supplement other game developers.
- **Game publishing:** Finance game development projects and ensuring profitability of a game via publishing, distribution, marketing, licensing, and localization; tend to be both IP and platform holders.

Creative outcomes: Video games (as products or as online services); middleware tools such as game engines and backend network programs; licensable content (IP).

British Columbia Impact

~\$900M

Out of a \$5.5B Canadian industry (2021)

Source: ESAC & Nordicity



8,700+
jobs

Source: ESAC & Nordicity

Global Video Games Hubs



Vancouver

160 companies



London

710 companies



Toronto

300 companies



Los Angeles

300 companies



Montreal

290 companies

Video Games | Overview

Value Chain of Video Games

Video games are typically produced by **game development studios**, who are responsible for conceptualizing and creating new video games and intellectual property (IP).

Titles produced by studios are commonly financed or distributed by **game publishers**, who are responsible for publishing, distribution, marketing, licensing of a game, providing localization support or services to ensure the game reaches global audiences.

Middleware developers, who produce the tools and game engines, and **hardware providers**, who manufacture game consoles and devices are part of the game development lifecycle.

Although there are companies that can encompass all these roles (e.g. Nintendo develops and publishes their own titles and has its own middleware research and development teams), the majority in the market are small game development studios looking for publishers and investors mostly from abroad.

Investment in Video Games

Video game is an investment heavy industry. Beyond the commercialization of the games, there is also market expectation that the game will be continuously improved with new content and new technical updates. Due to the business model and value chain of this industry, game developers look for investment from publishers and investors. **Publishers** work with game developers to help finance and distribute the games in exchange for exclusive rights to publish and distribute the games as well as certain portion of the revenues. **Investors** provide funding for developers in exchange for equity stake and future revenues. Investment attraction for video games, therefore, refers to both funding types.

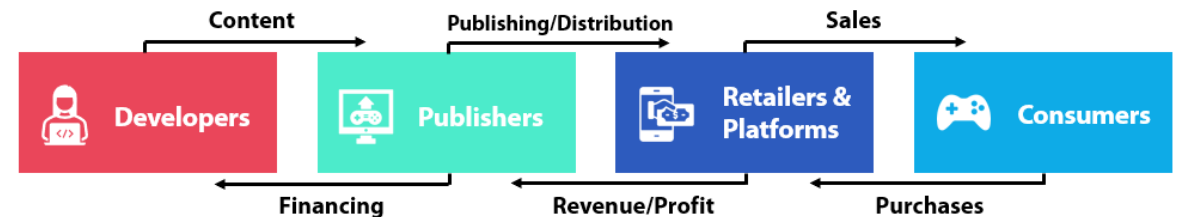


Diagram 6: Video games value chain

Video Games | Comparative Analysis | Supportive Ecosystem

Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>BC is home to 170 video game companies including industry giants like Electronic Arts (with over 2,000 employees), Nintendo, Microsoft Studios, Take 2 Interactive, Relic Entertainment/SEGA, which draw new ventures into the ecosystem.</p> <p>Vibrant incubators for gaming companies include Victory Square, with 25 portfolio companies, has 6 hitting liquidity events generating an almost 9x return.</p> <p>Vertical events like Fan Expo Vancouver and Vancouver Retro Gaming Expo primarily draw strong attendance from individual enthusiasts.</p>	<p>Ontario has the greatest number of video game companies in Canada (298 in 2021), including Ubisoft Toronto, Capcom Game Studio, Rockstar Toronto, and Certain Affinity. Over one-third of Ontario's IDM companies are primarily involved in game development or publishing.</p> <p>Interactive Ontario, Ontario Creates, International Game Developers Association – Toronto bring together key players with B2B activities.</p> <p>B2B-focused gaming conferences, such as Toronto XP Game Summit and Level Up Showcase brings together businesses, investors, and experts.</p>	<p>Quebec is home to 291 companies, including major players like Ubisoft, EA, WB Games, Eidos, Epic Games, and Gameloft.</p> <p>Montreal boasts over 30 incubators/accelerators including Ubisoft Entrepreneurs, which offer networking and funding opportunities. From 2017 to 2022, Quebec's video game startup ecosystem received over \$11B in venture capital investment (<i>Source: Montreal International</i>).</p> <p>Montreal International Game Summit (MIGS) stands as Canada's largest B2B video game conference. Demo Night, part of The Quebec Games Celebration, showcases the games to communities and beyond.</p>	<p>Major trade association, such as Entertainment Software Associations (ESA), dedicated to serving the legal, funding, IP, and market needs for video game industry.</p> <p>Robust startup and venture capital ecosystem stands out with a distinct emphasis on technology and gaming, securing a considerable share of funding within these industries (1,388.44M total capital invested with 12% in gaming in Q42022-Q12023).</p> <p>Despite the cancellation of the Electronic Entertainment Expo (E3), LA continues to host events such as the LA Games Conference, which brings together leaders from the video game industry, and IndieCade, which supports independent game development.</p>	<p>Trade associations and organizations such as Association for UK Interactive Entertainment (Ukie) offers acceleration programs, IP protection services for companies and lobbies for tax relief for the UK games sector.</p> <p>Dynamic arts and cultural ambiance boost video games ecosystem exemplified by events like London Games Festival (5,000+ intros of studios/investors since 2015, £35m business generated for London every 3 years) and ICE London (with designated exhibition zone for emerging global markets such as Africa to integrate into the UK ecosystem).</p>
<p>The Entertainment Software Association of Canada (ESAC) serves as the industry body for video game companies in Canada, representing console manufacturers, publishers, developers, and national distributors.</p>				

Video Games | Comparative Analysis | Financial Incentives

	Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
Primary Incentive					
Name	BC Interactive Digital Media Tax Credit (IDMTC)	Ontario Interactive Digital Media Tax Credit (OIDMTC)	Quebec Production of Multimedia Titles Tax Credit	California R&D Tax Credit	Video Games Expenditure Credit (VGEC)
Type	Tax Credit	Tax Credit	Tax Credit	Tax Credit	Expenditure Credit
Posted Tax Credit Rate	17.5%	35%	37.5%	15%	34%**
Guaranteed Funding if Eligible	Yes	Yes	Yes	Yes	Yes
Annual Allocation*	No	No	No	No	No
Secondary Incentive					
Name/Type	Canada Media Fund (Direct Funding)			N/A	UK Game Fund (Direct Funding)

*Annual Allocation: pre-determined or capped amount of funds that government allocates for a specific tax credit initiative within a given fiscal year. If there is an annual allocation or budgeted cap, once this amount is exhausted, no more tax credits can be issued until the start of the next fiscal year.

** Starting from January 1, 2024, under UK's Video Game Expenditure Credit new system, a high-end TV production, film production or video game will receive £5,000 in relief. The credit will be calculated directly from a game's qualifying expenditure. (Source: gov.uk)

Video Games | Comparative Analysis | Talent

Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Talent pool: BC's direct employment grew to 8,700 FTEs in 2021 from 7,300 (+19%) in 2019 (source: Nordicity & ESAC).</p> <p>Talent pipeline: Vancouver Film School (VFS) graduates over 1,000+ students a year. Alumni are employed on projects such as Halo, Luigis Mansion, and Overwatch.</p> <p>Other key schools include UBC, Vancouver Community College, BCIT, and Emily Carr. At the BCIT Digital Arts, Media, and Design program, graduates develop high-demand skills in animation and visual effects, interactive media, communication and web design, and graphic production.</p>	<p>Talent pool: 7,000 FTEs in 2021 in Ontario, a growth rate of 43% from 2019 (source: Nordicity & Ontario Creates).</p> <p>Diversity and accessibility: Ontario has the highest percentage (26%) of video games employees that identify as women, compared to British Columbia as the lowest (20%) (source: Made in CA).</p> <p>Talent pipeline: All of the Toronto Region's 18 post-secondary institutions have Digital Media or Creative Arts programs. Leading institutions with gaming streams include Sheridan College (Game Design), University of Toronto (Game Design Bootcamp partnering with Circuit Stream), and Seneca College (Game, Arts and Animation).</p>	<p>Talent pool: 13,500+ workers in the video games industry in Quebecin 2021 (source: Nordicity & Ontario Creates).</p> <p>Talent pipeline: 1,000+ specialized graduates who can pursue a career in video games, with close to 30 specialized university programs and close to 50 specialized college and technical programs. Ecole NAD-UQAC opened new certificate program in technical game art with \$1m investment and support from Ubisoft, welcoming students in Fall 2023.</p>	<p>Talent pool: Around 16,000 people work in the LA video game industry in 2020 (source: LAProgressive).</p> <p>Diverse talent pool drawing from the entertainment and technology heritage in L.A. with expertise in storytelling, graphics, and programming.</p> <p>Talent pipeline: Top-tier educational institutions offer a spectrum of specialized game design and development programs. USC's School of Cinematic Arts, ranked #1 for Game Design in North America, offers MS and BFA programs in Game Design and Development, Game Arts, and Themed Entertainment. UCLA is notable for its Video Game Studies program and Video Game Lab which fosters the production of games and game-related research within an arts and design context.</p>	<p>Talent pool: The video game industry in London generated 11,268 Direct FTEs in 2021 (source: Ukie).</p> <p>Talent pool: London maintains a strong heritage in arts, theatre, and cinema education. Leading institutions like UCL, Imperial College London, and King's College London offer interdisciplinary programs merging computer science, arts, and gaming culture.</p>

Video Games | Anchor Companies

Successful companies are located in Metro Vancouver

Vancouver is home to a cluster of highly successful video game companies, many of which have gained international acclaim for their innovative contributions to the industry.

Vancouver has become the preferred home for a diverse array of video game companies, ranging from **both large and small enterprises**, and a mix of both **domestic and international entities**. Many of these companies have recently set up in Vancouver, with over **70% of them being established in the city over the last 10 years**.

Notably, **Electronic Arts Games** expanded their Vancouver operations in False Creek Flats in 2022.

Cloudhead Games' release of Pistol White became a top seller and garnered numerous awards and nominations including DICE Awards VR Game of the Year and Game Developer Award.

Internationally Acclaimed Companies Based in Vancouver

Electronic Arts



UBISOFT®



Local Companies Based in Vancouver



Video Games | Barriers and Opportunities

Opportunities	Barriers
<p>[Ecosystem]</p> <ul style="list-style-type: none"> ▪ Metro Vancouver benefits from a supportive group of local companies, fostering a collaborative environment conducive to growth and innovation. ▪ The presence of a wide range of companies, from small indie studios to industry giants like EA, enriches the region’s diverse and dynamic landscape. ▪ Active industry associations like DigiBC play a pivotal role in advocating for the sector’s interests, fostering industry collaboration and providing valuable resources and support. ▪ The growing innovation and entrepreneurship ecosystem in Metro Vancouver increasingly enhances the region’s investment climate, attracting investors and fostering a culture of creativity. <p>[Financial Incentives]</p> <ul style="list-style-type: none"> ▪ Stable tax credit provides certainty and encourages long-term investment. ▪ There is potential for collective advocacy led by industry associations and agencies for competitive regional tax incentives. <p>[Talent]</p> <ul style="list-style-type: none"> ▪ Favorable federal and provincial immigration policies as well as talent development programs play a crucial role in attracting talents from overseas and within Canada. ▪ A wide range of companies enriches the region’s talent pool offering diverse career opportunities and pathways for professional development. <p>[Access to Markets]</p> <ul style="list-style-type: none"> ▪ Metro Vancouver’s strategic location provides easy access to West Coast of the US where a large portion of the industry in that country is located. 	<p>[Ecosystem]</p> <ul style="list-style-type: none"> ▪ The lack of B2B-focused vertical conferences and events for video games limits opportunities for knowledge sharing and industry collaborations within Metro Vancouver. ▪ The relatively inactive venture capital community presents a barrier to startup growth, particularly for small-scaled video games companies seeking investment and expansion opportunities. <p>[Financial Incentives]</p> <ul style="list-style-type: none"> ▪ Tax incentives in BC are less competitive compared to those offered by other Canadian provinces, potentially hampering the region’s ability to attract and retain video game businesses and investments. <p>[Talent]</p> <ul style="list-style-type: none"> ▪ Limited availability of interdisciplinary education programs hinders the development of various skillsets for the young professionals and the connectivity in the creative sector. <p>[Access to Markets]</p> <ul style="list-style-type: none"> ▪ Overall geopolitical uncertainty and volatility can restrict the access to broader market opportunities.

Immersive Media | Overview

The immersive tech industry involves using technologies such as Virtual Reality (VR) and Augmented Reality (AR) and Mixed Reality (MR) to develop augmented in-person experiences, including location-based events, and to develop innovative solutions for industrial, educational, government, and marketing purposes.

Two main types of **business models**:

- **Location-based experiences:** Ticket sales, space rental, Fee-for-service contracts, Original content production, Proprietary technology (software, hardware)
- **Industrial use cases:** Fee-for-service contracts, Proprietary technology (software, hardware)

Creative outcomes: Immersive/interactive exhibits (galleries, museums, science centres, historical sites), arcades, XR software, training simulations

British Columbia Impact

\$2.3B

35% of all AR/VR revenue in Canada (2022)

Source: Trade and Invest BC



590 FTEs
(2021)

Source: DigiBC & Nordicity

Immersive Tech Hubs



Vancouver

230 companies



London

190 companies



Toronto

250 companies



Los Angeles

145 companies



Montreal

80 companies

Immersive Media | Overview

Value Chain of Immersive Media

The primary inputs of immersive Media development include **talent** (to do the work), **software** (Unity or Unreal Engine to provide the foundation for the immersive tech product), **hardware** (cameras and computers to capture content), and **middleware and plug-ins** (to make the process easier and more user-friendly).

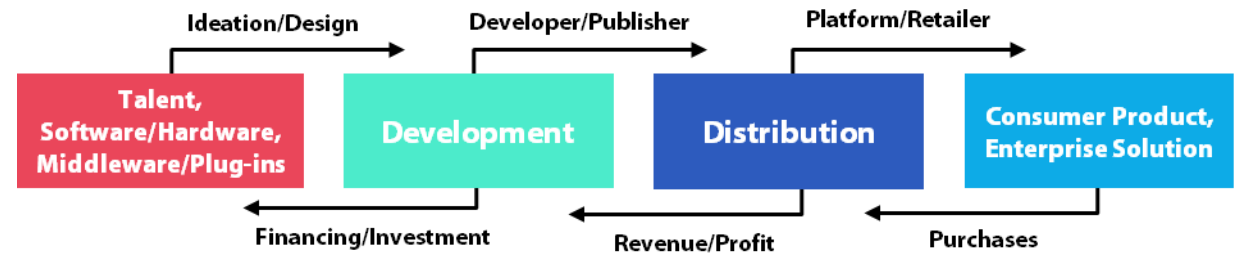


Diagram 7: Immersive media value chain

Companies are founded based on a new product idea, which they will then seek out funding for by way of **company financing or project funding** for R&D and product development. Upon securing financial resources, they proceed to **product development** which includes roles such as technical providers, creative providers and quality assurance teams. These teams then feed their materials back to developers who create the final product. Developers may then self-publish their work or pass it off to a **publisher** who handles the commercialization and marketing of the product. Common **end users** of the product include the public (videogames, editing apps), or enterprises and government (workforce training, collaboration tools).

Investment in Immersive Media

Since most immersive media companies are in start-up or development stages, their need for financing and capital is significant. For example, immersive media companies spend significantly on the R&D and ideation/design phase of the value chain to realize their growth potential. Investment attraction for immersive media is similar to video games, with **investors** providing funding for companies in exchange for an equity stake and future revenues. Common funding sources for immersive media companies include government programs (all levels of government), angel investors, private equity, venture capital, and public markets.

Immersive Media | Comparative Analysis | Supportive Ecosystem

Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Over 230 immersive media companies are found in BC, only second to the Bay Area/Silicon Valley. Research also identified that almost 70% of companies are small in size (5-25 employees) (Source: Vancouver AR/VR Association). Some notable companies include Llama Zoo, Archaiaact, Cognitive3d, and PrecisionOS.</p> <p>Signals, presented by DigiBC & VIFF, features Metro Vancouver’s wealth of talent and showcases interactive and immersive media work. Vancouver is also home to SIGGRAPH Conference and the VR/AR Global Summit.</p> <p>Key supportive organizations and associations include: DigiBC, the Vancouver Economic Commission¹, and VRARA Association Vancouver Chapter.</p>	<p>Over 250 immersive media companies are found in the Greater Toronto Area. Both domestic and international companies can be found here including local studios such as Dark Slope, Geogram, and Secret Location, as well as international organizations such as Magic Leap and LumiereVR. Toronto has drawn attention with companies like Secret Location and Lighthouse Immersive.</p> <p>Festivals such as imagineNATIVE and FIVARS, to business-oriented conferences like the XP Game Summit and Pocket Gamer Connect Toronto illustrate the dynamism of Ontario’s immersive media industry.</p> <p>Supportive organizations/industry associations found in Toronto include VRARA Toronto Chapter, AR/VR Network, Virtual Reality Community (VRC), Ontario-Students Virtual Reality Association (OVRA).</p>	<p>Approximately 80 immersive media companies reside in Montreal. Companies include Groover Jones, Genius XR, IMAGINE360, and Whimsy Games Group.</p> <p>Supportive organizations/industry associations include HUB Montreal, VRARA Montreal Chapter and Virtual Creativity Montreal Style.</p>	<p>Approximately 145 immersive media companies. Major companies include Snap Inc., Virtualitics, and Niantic.</p> <p>Popular conferences and events held in LA include AWE USA - Augmented World Expo, and SIGGRAPH.</p> <p>Robust startup and venture capital ecosystem in Los Angeles, with a distinct emphasis on technology and digital media.</p>	<p>Approximately 190 immersive media companies at the city-level, and 866 in the Greater London regional-level. Some of the major companies include Envisics, Threedium, move.ai, XYZ Reality, and Emperia.</p> <p>Large conferences and events held in London include London Tech Week (over 17,000 attendees), TechXLR8, and the AR & VR World Summit, attract individuals from all over the world.</p>

1 – Note: the Vancouver Economic Commission (VEC) was decommissioned in 2023.

Immersive Media | Comparative Analysis | **Financial Incentives**

	Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
Primary Incentives					
Name	BC Interactive Digital Media Tax Credit (IDMTC)	Ontario Interactive Digital Media Tax Credit (OIDMTC)	Quebec Production of Multimedia Titles Tax Credit	California R&D Tax Credit	Research and Development Expenditure Credit
Type	Tax Credit	Tax Credit	Tax Credit	Tax Credit	Expenditure Credit
Posted Tax Credit Rate	17.5%	35%-40%	37.5%	35% (24% of basic research payments, and 15% of qualified expenses that exceed a base amount)	20%
Guaranteed Funding if Eligible	Yes	Yes	Yes	Yes	Yes
Annual Allocation	No	No	No	No	No
Secondary Incentives					
Name/Type	Canada Media Fund (Direct Funding) Federal Government Funding: including Scientific Research and Experimental Development Tax Incentive Program (SR&ED), the Industrial Research Assistance Program (IRAP), Strategic Innovation Fund, and Mitacs.				

Immersive Media | Comparative Analysis | Talent

Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Talent pool: In 2020, there were approximately 1,700 FTEs of direct employment in Vancouver (source: VEC & Vancouver AR/VR).¹</p> <p>Talent pipeline: The Vancouver Film School (VFS) VR/AR Design and Development graduates have collaborated on immersive projects with the Faculty of Medicine at UBC, KPMG, and the City of New Westminster, creating social impact on the local and greater scale across industries.</p> <p>EDIA: UBC Emerging Media Lab, Oya Black Arts Scale Up Immersive Media Lab, and IM4 Lab, are prime examples of programs where individuals from visible minorities or diverse backgrounds can explore cutting-edge immersive tech and gain hands-on experience.</p>	<p>Talent pool: Over 8,000 FTEs of direct interactive digital media employment exist in Ontario, of which, a significant portion of this is based in Toronto in 2023 (source: Ontario Creates).</p> <p>Talent pipeline: A great number of Toronto Region post-secondary institutions have Digital Media and/or Creative Arts programs. Leading institutions include Toronto Metropolitan University (Master of Digital Media), York University (Bachelor of Arts in Digital Media), and University of Toronto (collaboration with Circuit Stream XR Development and XR Design).</p>	<p>Talent pool: Over 2,000 VR/AR experts work in Montreal in 2023 (source: Montreal International).</p> <p>Talent pipeline: Some of the key educational institutions found in Montreal include the Champlain College VR and AR Specialist program, Polytechnique Montreal (XR Lab), and Ecole NAD.</p>	<p>Talent pool: Over 200,000 tech professionals are in LA, with the talent pool growing at a rate of 4.4% annually in 2023 (source: HeroHunt.ai). Among the tech professionals, many are increasingly paying attention on AR/VR technology and its application, reflecting the growing importance of this sector.</p> <p>Talent pool: Over 15k engineering students, both graduate and undergraduate, come out of LA County a year (source: HeroHunt.ai).</p> <p>10+ meetups exist in LA alone such as Front End Developers of LA, and LA Virtual Reality Meetup (source: HeroHunt.ai).</p>	<p>Talent pool: Nearly 7,000 FTEs are in the Greater London Area in 2022, making it the largest Immersive Media hub in Europe (source: Immerse UK).</p> <p>Talent pool: Arts schools lead the way with programs at schools such as the University of the Arts London (animation, Interactive, film, and sound); and Royal College of Arts (Moving Image/ARVR)</p>

Immersive Media | Anchor Companies

Immersive Media is growing to play a leading role as an economic driver of Metro Vancouver

The Vancouver immersive media industry is built on decades of experience in Vancouver's film, post-production, and video games industries. With a diverse array of peripheral industries already thriving in Vancouver, the city is well-suited for the establishment and growth of immersive media companies.

Vancouver also benefits from a rich and diverse entrepreneurship culture, providing numerous STEM jobs across its technology ecosystem broadly.

Thriving industry verticals in Vancouver, including education, architecture, construction, engineering, and health, present significant opportunities for immersive media companies. For example, **PrecisionOS** has developed a best-in-class VR surgical training platform for doctors.

Internationally Acclaimed Companies Based in Vancouver



IMMERSIVE TECH



Local Companies Based in Vancouver



METANAUT



precisionos



nGRAIN®



Immersive Media | Barriers and Opportunities

Opportunities	Barriers
<p>[Ecosystem]</p> <ul style="list-style-type: none"> Leveraging expertise and content from various entertainment streams in the region enhances the region’s creative capabilities and fosters collaboration across industries. Strong connections with the innovation ecosystem and educational institutions provide support for continuous research and new application scenarios for VR/AR technologies. <p>[Financial Incentives]</p> <ul style="list-style-type: none"> Stable tax credit schemes provide financial stability and encourage long-term investment in immersive media projects. There is potential for collective advocacy among industry associations and organizations for competitive regional tax incentives specifically tailored to the sector. <p>[Talent]</p> <ul style="list-style-type: none"> Beyond location-based experience, this industry is increasing its ability to secure international talent through remote work. Post-secondary institutions are actively engaging with and exploring applications of AR/VR, indicating growing interest and investment in talent development for immersive media. <p>[Access to Markets]</p> <ul style="list-style-type: none"> Growing demand for AR/VR technologies in non-entertainment verticals presents an opportunity for immersive media companies to diversify client base and revenue streams. Fostering partnerships and securing financing with US-based companies and investors can significantly accelerate the growth of immersive media firms. 	<p>[Ecosystem]</p> <ul style="list-style-type: none"> Education is still needed for funders, investors, users, and customers to understand the potential and application scenarios for these technologies within DM&E and other industries. <p>[Financial Incentives]</p> <ul style="list-style-type: none"> Less competitive tax incentives hinder the attraction of immersive media businesses to the region. <p>[Talent]</p> <ul style="list-style-type: none"> Limited availability of specialized AR/VR expertise in Metro Vancouver, hindering the development of immersive media projects. Current educational programs focus more on content creation and less on AR/VR technology and tools development. The latter has the potential for generating ongoing revenue through licensing, sales, and service agreements, unlike content creation, which typically results in one-off revenue streams. <p>[Access to Markets]</p> <ul style="list-style-type: none"> Canadian companies’ cautious approach towards adopting new technologies, often awaiting confirmation of safety and value, limits domestic market growth. Smaller firms, in particular, face slower adoption due to associated hardware costs.

Animation | Overview

Vancouver accounts for over half of all film and TV production in Canada. This has laid the groundwork for the animation and VFX industries by establishing a robust foundation in infrastructure, talent, and market access. Further support comes from technological advancements, regional specialization, and financial incentives.

Animation and Visual Effects (VFX) are often grouped for the skills they employ, yet it's important to note their critical differences to understand each industry's unique needs. In this sense, **animation** is computer-generated or physical imagery manipulated to appear as a moving image. From hand-drawn to computer-generated to stop-motion, each style brings unique nuances to production and distribution.

Three main types of **business models**:

- Fee-for-service contracts
- Original content production
- Proprietary technology (software, hardware)

Creative outcomes: Feature films, TV series (including streaming platforms), commercials, eLearning platforms, immersive exhibitions, video games, and more.

British Columbia Impact

\$1.4B

in total spend in VFX and animation (2022)*

Source: VEC



44,000 FTEs

Direct & Indirect from Animation and VFX* (2022)

Source: CreativeBC

Animation Studios



Vancouver
60 studios



London
50 studios



Toronto
20+ studios



Los Angeles
30 studios



Montreal
10+ Studios

- Direct jobs refer to positions created directly within the DM&E sector. Alternatively, indirect jobs are positions created outside of the sector as a result of its activities but are not directly employed by the DM&E sector itself. No disaggregated data found for Animation and VFX

Animation | Overview

Value Chain of Animation

The animation sector integrates original design, technology innovation, and market diversification, intersecting with the design, gaming, and TV industries.

Rapid expansion in this sector is driven by the Internet, streaming services, mobile devices, social media, and a growing demand for entertainment, gaming, animated movies, and visual effects. The industry involves partnerships and international co-production, with multinational enterprises handling everything from **pre-production to distribution, including IP licensing**. The animation production process encompasses concept design (project proposal), pre-production (scriptwriting, storyboarding, character design), production (computer graphics), and post-production (editing, voice recording). After production, the focus shifts to distribution (via streaming services, DVDs, social media) and character merchandising (games, apparel, stationery, theme parks). Revenue streams for animation include streaming platforms, advertising, ticket sales, and character merchandising, among others.

Investment in Animation

In the animation and VFX industries, mergers and acquisitions (M&A) are some of the primary sources of growth and investment. Additionally, there is significant investment in Research and Development (R&D) and Innovation. This includes the adoption of various technologies such as cloud computing, which increases scalability by providing access to enhanced computing power and storage capacity, and technologies like 3D computing and realistic effects.

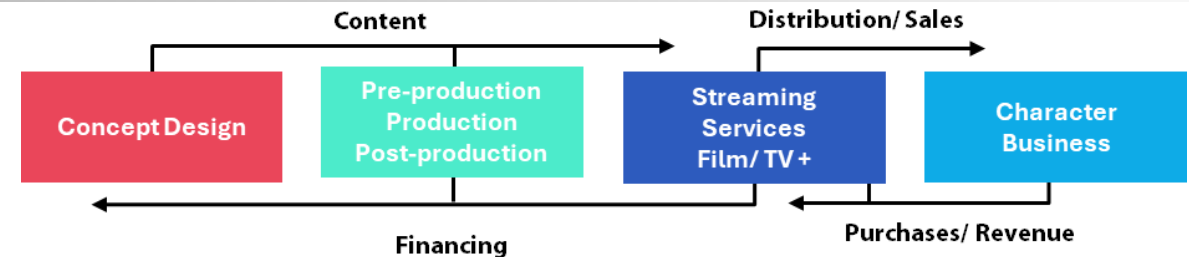


Diagram 8: Animation value chain

Animation | Comparative Analysis | Supportive Ecosystem

Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Vancouver is home to over 50 animation studios including Disney's only global animation production hub outside its California headquarters, Sony Pictures Imageworks, with 700 employees, and Animal Logic, which employs over 500 people.</p> <p>Vancouver's animation industry is supported by associations like the Vancouver Animation Network with over 1,000 members and the Animation and Visual Effects Alliance in BC which represents major companies in the sector.</p> <p>Vancouver hosts the VANAS Conference, by the Vancouver Animation School, featuring world-class speakers and interactive sessions for animation, visual effects, and video game professionals. Also home to the Spark CG annual event.</p>	<p>There are over 20 animation studios in Toronto. Key companies in the city include Guru Studio and Elliott Animation, each boasting over two decades of experience.</p> <p>Toronto is the base for the Computer Animation Studios of Ontario (CASO), an association focused on advocacy, professional development, and marketing initiatives, and the Toronto Animated Image Society (TAIS), dedicated to promoting independent animation.</p> <p>For more than a decade, the Toronto Animation Arts Festival International (TAAFI) has offered a film festival, industry conferences, and job fairs for hundreds of professionals, students, studios, and animation enthusiasts.</p>	<p>Montreal is home to 35 animation studios, including the international studio Cinesite, which boasts over 200 employees, as well as local studios like L'Atelier and Tonic DNA, which has 35 years of industry experience.</p> <p>The city is supported by various industry associations, such as the Alliance Quebec Animation (AQA), which promotes collaboration and acts as an advocate for the industry.</p> <p>Montreal also hosts Animaze, the Montreal International Animation Festival, now in its 10th year, and Les Sommets du Cinema d'Animation, which is celebrating its 22nd edition.</p>	<p>Los Angeles counts with more than 30 animation studios, including major companies such as DreamWorks Animation, Disney, and Atomic Cartoons, which serve clients like Netflix.</p> <p>Associations such as the International Animated Film Society, and more locally ASIFA Hollywood, are dedicated to supporting artists and preserving the industry's legacy in LA.</p> <p>Events like the Los Angeles Animation Festival (LAAF) and the World Animation Summit have played a crucial role in strengthening the industry in the last decades.</p>	<p>There are more than 50 animation studios in London. Among these are Blue Zoo Animation Studio, a multi-BAFTA winning production company, and CAKE Entertainment, which collaborates with companies like Netflix.</p> <p>Organizations such as Animation UK, Film London, the British Film Institute (BFI) and UK Screen Alliance promote the industry, conduct research, and strengthen the network of animators and VFX professionals.</p> <p>London hosts the London International Animation Festival, the UK's largest and longest-running animation festival.</p>

Animation | Comparative Analysis | Financial Incentives

	Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
Primary Incentive					
Name	Digital Animation or Visual Effects (DAVE)	Ontario Computer Animation and Special Effects (OCASE)	Refundable Tax Credit for Film Production Services Bonus of QLE for SFX	N/A	Animation and children's TV productions
Type	Tax Credit	Tax Credit	Tax Credit	N/A	Tax Credit
Posted Tax Credit Rate	16%	18%	16% of Qualifying Labour Expenditure (QLE)	N/A	39%
Annual Allocation	No cap	No cap	No cap	N/A	No cap
Base Incentive for Film & TV					
Name/Type	Film Incentive British Columbia (FIBC)–35% of QLE (cap) Provincial Production Services Tax Credit (PSTC)–28% of QLE (no cap)	Film and Television Tax Credit- 35% (no cap) Production Services Tax Credit-21.5% All spend (no cap)	Refundable Tax Credit for Film Production Services- 20% of QLE (no cap) Refundable Tax Credit for Québec Film and Television Productions- 26-40% (cap) Multimedia Production Tax Credit 26.25%-37.5% (no cap)	California Motion Picture and Television Production Credit- 20-30% (cap)	Film Tax Relief – 25% (cap) Film & High-end TV – 34% (cap)

Animation | Comparative Analysis | Talent

Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Talent pool: There are over 8,000 VFX & Animation professionals in Vancouver (source: VEC). The industry generated 44,000 FTEs in direct and indirect employment in 2022 in BC (source: CreativeBC).</p> <p>Talent pipeline: Top-tier institutions in Vancouver offer programs in animation, including VanArts, recognized as one of Canada's top animation schools, Vancouver Animation School (VANAS), which provides focused training in animation; Cap U School of Motion Picture Arts, and Vancouver Film School (VFS).</p> <p>EDIA: Creative BC offers two programs to measure, promote, and ensure equity, inclusion, and diversity in the industry: Creative Pathways™ and Creative Equity Roadmap™.</p>	<p>Talent pool: The animation and VFX industry employed over 4,220 workers in 2019, with around 2,200 specifically employed in the animation industry in Toronto (source: Nordicity for the Toronto Screen Industry).</p> <p>Talent pipeline: Toronto is home to institutions like Seneca College, known for comprehensive animation programs covering both 2D and 3D animation, Sheridan College, which boasts the country's largest animation faculty, and OCAD University, recognized as Canada's largest school for studying media, design, and the arts.</p>	<p>Talent pool: Over 8,000 individuals were employed by visual effects and animation studios in Montreal in 2023 (source: Montreal International).</p> <p>Talent pipeline: 90+ college and university programs in Quebec offering programs in VFX and animation. 600+ specialized graduates can pursue a career in VFX and animation.</p> <p>Montreal boasts animation programs such as Concordia University, renowned for its interdisciplinary approach, and Rubika Montreal, recognized among the top animation schools worldwide.</p>	<p>Talent pool: The VFX and animation industries in Los Angeles generated around 14,400 FTEs in 2022 (source: US Bureau of Labor Statistics).</p> <p>Talent pool: Los Angeles is home to several prestigious animation programs, including the Animation Track at ArtCenter College of Design in Pasadena, and the Animation Emphasis within the Digital Media Department at Otis College of Art and Design.</p> <p>EDIA: Women in Animation (WIA), headquartered in Los Angeles, aims for gender parity by 2025 and strives for greater inclusivity in both behind-the-scenes and on-screen roles.</p>	<p>Talent pool: In 2022, the animation industry in London employed over 2,500 FTEs (source: Film London).</p> <p>Talent pool: London boasts a variety of top-tier animation programs, including the MA Animation program at the University of the Arts London (UAL), and both University College London (UCL) and Imperial College London, which are known for their research in animation.</p> <p>EDIA: Based in London, ACCESS:VFX is a global, industry-led, non-profit organization focused on diversity, awareness, and opportunity.</p>

Animation | Anchor Companies

Vancouver, known as "**Hollywood North**," has a solid track record in film, TV, and digital media, enhancing its appeal for VFX and animation companies.

The city boasts a collaborative ecosystem with numerous animation, VFX studios, and a thriving gaming industry.

Vancouver's animation industry, **dating back to 1967** with AI Sens Animation Limited, continues to grow with both established and new studios like **Titmouse, Atomic Cartoons, Slap Happy, Big Bad Boo, and Wildbrain.**

Vancouver hosts a range of animation studios, from local ones like **Bardel**, with over 200 employees, to international giants like **Animal Logic**, with around 700 employees, making it a prime location for animation.

Internationally Acclaimed Companies Based in Vancouver



Local Companies Based in Vancouver



Animation | Barriers and Opportunities

Opportunities	Barriers
<p>[Ecosystem]</p> <ul style="list-style-type: none"> The region's established expertise in film & TV production provides a strong foundation and network that can be leveraged to enhance opportunities for animation. Continuous support from industry organizations and advocacy efforts have placed Metro Vancouver on the global map. <p>[Financial Incentives]</p> <ul style="list-style-type: none"> Availability of competitive tax incentives such as the BC DAVE (Digital Animation, Visual Effects, and Post-Production Tax Credit) provides significant financial advantages for animation companies operating in Metro Vancouver. <p>[Talent]</p> <ul style="list-style-type: none"> The animation industry benefits from the seamless integration of international students into the local workforce upon graduation, enriching the talent pool with culturally diverse perspectives and skills to cater the wider global audience. <p>[Access to Markets]</p> <ul style="list-style-type: none"> Utilizing Metro Vancouver's strategic location and established connections in the film & TV industry can leverage existing market channels for animation distribution and promotion. 	<p>[Ecosystem]</p> <ul style="list-style-type: none"> Limited integration between animation industry and other creative sectors (e.g., animation + video games) in Metro Vancouver can reduce the opportunities for cross-disciplinary collaboration and innovation. <p>[Financial Incentives]</p> <ul style="list-style-type: none"> Limited number of home-grown investment firms restricts access to capital and funding opportunities for animation projects. <p>[Talent]</p> <ul style="list-style-type: none"> Ongoing debates surrounding the use of AI technology create uncertainty for talent recruitment and retention, and content creation in the animation industry. Industry strikes, particularly those involving actors, pose challenges for industry operations. <p>[Access to Markets]</p> <ul style="list-style-type: none"> Limited international market penetration due to strong competition from established animation hubs such as Hollywood and other global centres.

Visual Effects | Overview

Animation and Visual Effects (VFX) are often grouped for the skillsets they employ, yet it's important to note their critical differences to understand each industry's unique needs. In this sense, **Visual Effects (VFX)** involves the integration of live-action footage (including in-camera special effects) and generated-imagery (digital or optics, animals or creatures) which look realistic, but would be dangerous, expensive, impractical, time-consuming or impossible to capture on film.

In 2022, VFX shots were featured in 90% of all released films.

Three main types of **business models**:

- Fee-for-service contracts
- Proprietary asset libraries
- Proprietary technology (software, hardware)

Creative outcomes: Feature films, TV series (including streaming platforms), commercials, eLearning platforms, immersive exhibitions, video games, and more.

British Columbia Impact

\$1.4B

in total spend in VFX and animation (2022)*

Source: VEC



44,000 FTEs

Direct & Indirect from Animation and VFX* (2022)

Source: CreativeBC

VFX Studios



Vancouver
50+ studios



London
60 studios



Toronto
40 studios



Los Angeles
125 studios



Montreal
25 Studios

Visual Effects | Overview

Value Chain of Visual Effects

The value chain of visual effects can be slightly different depending on the client and sector (e.g., creative agency, advertiser, government, corporate client, etc.).

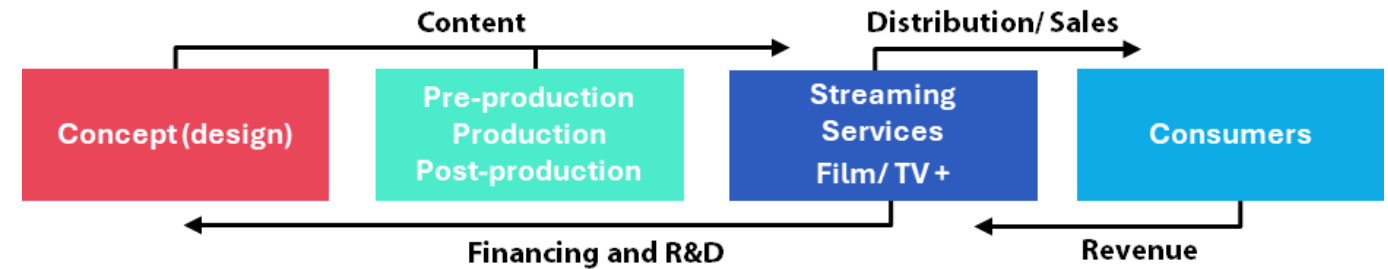


Diagram 9: Visual effects value chain

While some companies operate outside of the entertainment space, such as in advertising or education, the value chain is similar in the concept (design), and pre- to post-production phases. Development and distribution may differ outside of the entertainment industry. Given the scope of DM&E sector, Diagram 9 above outlines the value chain for visual effects applied to the entertainment industry (i.e., the final step being the distribution of Film & TV content).

Investment in Visual Effects

In the VFX and animation industries, mergers and acquisitions (M&A) are the primary sources of growth and investment. Additionally, there is significant investment in Research and Development (R&D) and Innovation. This includes the adoption of various technologies such as cloud computing, which increases scalability by providing access to enhanced computing power and storage capacity. Investments are also made in virtual production and artificial intelligence (AI) to automate a wide range of workflows and facilitate enhanced realism.

Visual Effects | Comparative Analysis | Supportive Ecosystem

Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Vancouver is home to over 50 VFX studios, including major players such as Industrial Light & Magic (ILM), which has 700 employees and has worked on productions like the Star Wars Saga, and Image Engine, which has been in operation for almost 30 years.</p> <p>The VFX industry is supported by several industry associations in Vancouver, including the Animation & VFX Alliance of British Columbia, Vancouver Post Alliance, Visual Effects Society, and Spark Computer Graphics Society.</p> <p>Vancouver hosts SPARK FX, an event dedicated to visual effects innovation and networking.</p>	<p>Toronto has an estimated 37 VFX studios, including key companies such as Pixomondo, which is building the world's largest virtual production studio in city, and the Oscar-winning studio, Mr. X.</p> <p>The Computer Animation Studios of Ontario (CASO) represents the priorities and interests of Ontario studio owners and operators in VFX and animation through advocacy, professional development, and marketing.</p> <p>Toronto serves as one of the venues for events organized by the Visual Effects Society (VES), a global professional society with more than 4,400 members across 45 countries.</p>	<p>There are over 25 VFX studios in Montreal, including global leaders like Double Negative (DNEG) and Rodeo FX, known for their work on major blockbusters.</p> <p>Montreal hit a record year in 2022 with a total revenue of \$1B+ in VFX (source: Montreal International).</p> <p>VFX Montreal is a significant industry association that showcases Québec's VFX and animation studios and plays a key role in attracting talent to these industries. \$1.3B+ in VFX investment projects were supported by Montreal International between 2018-2023.</p> <p>Effects MTL is an international conference for the VFX and animation industry, aiming to position itself as the leading event in North America.</p>	<p>Backed by a robust Film and TV industry, LA is home to the most VFX studios, numbering around 125, with notable ones being Zoic, FuseFX, and CoSA VFX.</p> <p>Access VFX, a worldwide non-profit coalition of leading VFX, animation, and games studios, has established a West Coast chapter in LA to foster industry diversity with initiatives like mock interviews, reel reviews, and e-mentorships.</p> <p>BCON LA (Blender Conference) is the North American Blender event of the year, bringing together artists, developers, teachers, researchers and scientists.</p>	<p>London boasts around 60 VFX studios, including prominent ones like Framestore and Baseblack, known for their work on productions such as Harry Potter.</p> <p>Film London and the UK Screen Alliance are organizations that support the industry, engage in research, and enhance the network of animators and VFX professionals.</p> <p>London hosts key VFX industry events, including the VFX Festival, Vertex, and The BFX Festival, which bring together professionals, students, and enthusiasts for discussions, workshops, and showcases in visual effects and animation.</p>

Visual Effects | Comparative Analysis | Financial Incentives

	Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
Primary Incentive					
Name	Digital Animation or Visual Effects (DAVE) Tax Credit	Ontario Computer Animation and Special Effects (OCASE) Tax Credit	Refundable Tax Credit for Film Production Services Bonus of QLE for SFX	Visual Effects Credit Uplift	N/A
Type	Tax Credit	Tax Credit	Tax Credit		N/A
Posted Tax Credit Rate	16%	18%	16% of QLE	5% of QLE and Spend	N/A
Annual Allocation	No cap	No cap	No cap		N/A
Base Incentive for Film & TV					
Name/Type	Film Incentive British Columbia (FIBC)–35% of QLE (cap) Provincial Production Services Tax Credit (PSTC)–28% of QLE (no cap)	Film and Television Tax Credit- 35% (no cap) Production Services Tax Credit-21.5% All spend (no cap)	Refundable Tax Credit for Film Production Services- 20% of QLE (no cap) Refundable Tax Credit for Québec Film and Television Productions- 26-40% (cap) Multimedia Production Tax Credit 26.25%-37.5% (no cap)	California Motion Picture and Television Production Credit- 20-30% (cap)	Audio-Visual Expenditure Credit (AVEC): Film Tax Relief – 25% (cap) & Film & High-end TV – 34% (cap)

Visual Effects | Comparative Analysis | Talent

Vancouver, CAN	Toronto, CAN	Montreal, CAN	Los Angeles, USA	London, UK
<p>Talent pool: There are over 8,000 VFX & Animation professionals in Vancouver (<i>source: VEC</i>). The industry generated 44,000 FTEs in direct and indirect employment in 2022 (<i>source: CreativeBC</i>).</p> <p>Talent pipeline: Vancouver is renowned for its exceptional VFX programs, such as the comprehensive Visual Effects program at VanArts, and the Visual Effects for Film program at Capilano University. Vancouver Film School (VFS) also offers many VFX options along with strong industry connections.</p> <p>EDIA: Creative BC offers two programs to measure, promote, and ensure equity, inclusion, and diversity in the industry: Creative Pathways and Creative Equity Roadmap.</p>	<p>Talent pool: The animation and VFX industry employed over 4,220 workers in 2019, with around 2,230 FTEs worked on VFX projects in Toronto in 2019. (<i>source: Nordicity for the Toronto Screen Industry</i>).</p> <p>Talent pipeline: Toronto offers an array of VFX training programs at top institutions like Seneca Polytechnic, Sheridan College, Centennial College, Humber College, Toronto Film School, and George Brown College. There are also specialized programs like the CEE Centre for Young Black Professionals' VFX Compositing Program, which aims to facilitate the entry of Black youth into the industry.</p>	<p>Talent pool: Over 8,000 individuals were employed by visual effects and animation studios in Montreal in 2023 (<i>source: Montreal International</i>).</p> <p>Talent pipeline: 600+ specialized graduates can pursue a career in VFX and animation from 20 specialized university programs or close to 40 specialized college and technical programs.</p> <p>Montreal hosts several top-tier VFX programs, including the VFX and Game Design School at LaSalle College, the specialized training at the Lost Boys School of Visual Effects, and the Bachelor's degree program (VFX Specialization) at École NAD.</p>	<p>Talent pool: The VFX and animation industries in Los Angeles generated around 14,400 FTEs in 2022 (<i>source: US Bureau of Labor Statistics</i>).</p> <p>Talent pipeline: Los Angeles is home to several prestigious VFX programs, including the Gnomon School of Visual Effects located in Hollywood, the University of Southern California (USC) with its multidisciplinary programs focusing on VFX and Character Animation, and The Los Angeles Film School, which offers a Bachelor of Science in Animation Degree with a concentration in Visual Effects.</p> <p>EDIA: Women in Animation (WIA), headquartered in Los Angeles, aims for gender parity by 2025 and strives for greater inclusivity in both behind-the-scenes and on-screen roles.</p>	<p>Talent pool: Together with animation, the VFX industry generated 11,840 FTEs in 2019 across the entire value chain in the UK, with 98.8% of the employment happening in London (<i>source: Olsberg SPI & Nordicity</i>).</p> <p>Talent pipeline: London offers a range of top-tier VFX programs, such as the MA Visual Effects program at the London College of Communication, the BSc (Hons) in Visual Effects at the University of West London, and undergraduate, postgraduate, and short courses in VFX at Escape Studios.</p> <p>EDIA: Based in London, ACCESS:VFX is a global, industry-led, non-profit organization focused on diversity, awareness, and opportunity.</p>

Visual Effects | Anchor Companies

Vancouver, known as "**Hollywood North**," has a solid track record in film, TV, and digital media, enhancing its appeal for VFX and animation companies.

From the founding of **Rainmaker Entertainment in 1993** to major players like **Image Engine**, contributing to "Deadpool," **Zoic Studios** on "Game of Thrones," and **Industrial Light & Magic (ILM)** on "Avengers: Endgame," Vancouver's VFX studios have significantly impacted global productions.

Internationally Acclaimed Companies Based in Vancouver



Local Companies Based in Vancouver



Visual Effects | Barriers and Opportunities

Opportunities	Barriers
<p>[Ecosystem]</p> <ul style="list-style-type: none"> Aligned willingness to drive success from the industry and government serves as a supportive factor for sustained growth. Globally recognized VFX studios can attract increasing attention from investors, talents, and government incentives. The robust film and TV pipeline in Metro Vancouver as the 3rd largest hub in North America can act as a funnel, creating a one-stop shop for production and post-production. <p>[Financial Incentives]</p> <ul style="list-style-type: none"> Availability of tax credit programs such as DAVE (Digital Animation, Visual Effects, and Post-Production Tax Credit), bolstered by the underlying strength of the service AV production industry in BC, further enhance the region's attractiveness for VFX companies and investors. <p>[Talent]</p> <ul style="list-style-type: none"> Increasing number of schools focused on visual effects are incorporating cutting-edge technology tools and software into their curricula, contributing to the long-term flourishing of the sector. <p>[Access to Markets]</p> <ul style="list-style-type: none"> Positioning Metro Vancouver as a one-stop-shop for production and post-production and building more bridges with the other creative industries establish the vibrancy of the economy and thus attract more projects and profits to the market. 	<p>[Ecosystem]</p> <ul style="list-style-type: none"> The innovation ecosystem, while holding potential, poses a barrier that requires improvement for the industry to effectively develop new tech solutions, including artificial intelligence and machine learning More support on infrastructure is needed such as more rendering farms that meet environmental sustainability standards. <p>[Financial Incentives]</p> <ul style="list-style-type: none"> N/A <p>[Talent]</p> <ul style="list-style-type: none"> The dependency on fee-for-service work within the visual effects industry may hinder entrepreneurial mindset development. When companies primarily rely on providing services for clients on a project-by-project basis, this model can limit the VFX talent ability to innovate, take risks, develop proprietary technology, or other professional development opportunities. Industry strikes among writers and actors can disrupt production schedules leading to periods of downtime and uncertainty for VFX professionals. <p>[Access to Markets]</p> <ul style="list-style-type: none"> Metro Vancouver faces challenges penetrating wider global markets with strong competition from established VFX hubs.

5. Key Value Proposition and Future Considerations

Summary of Metro Vancouver's Key Value Proposition

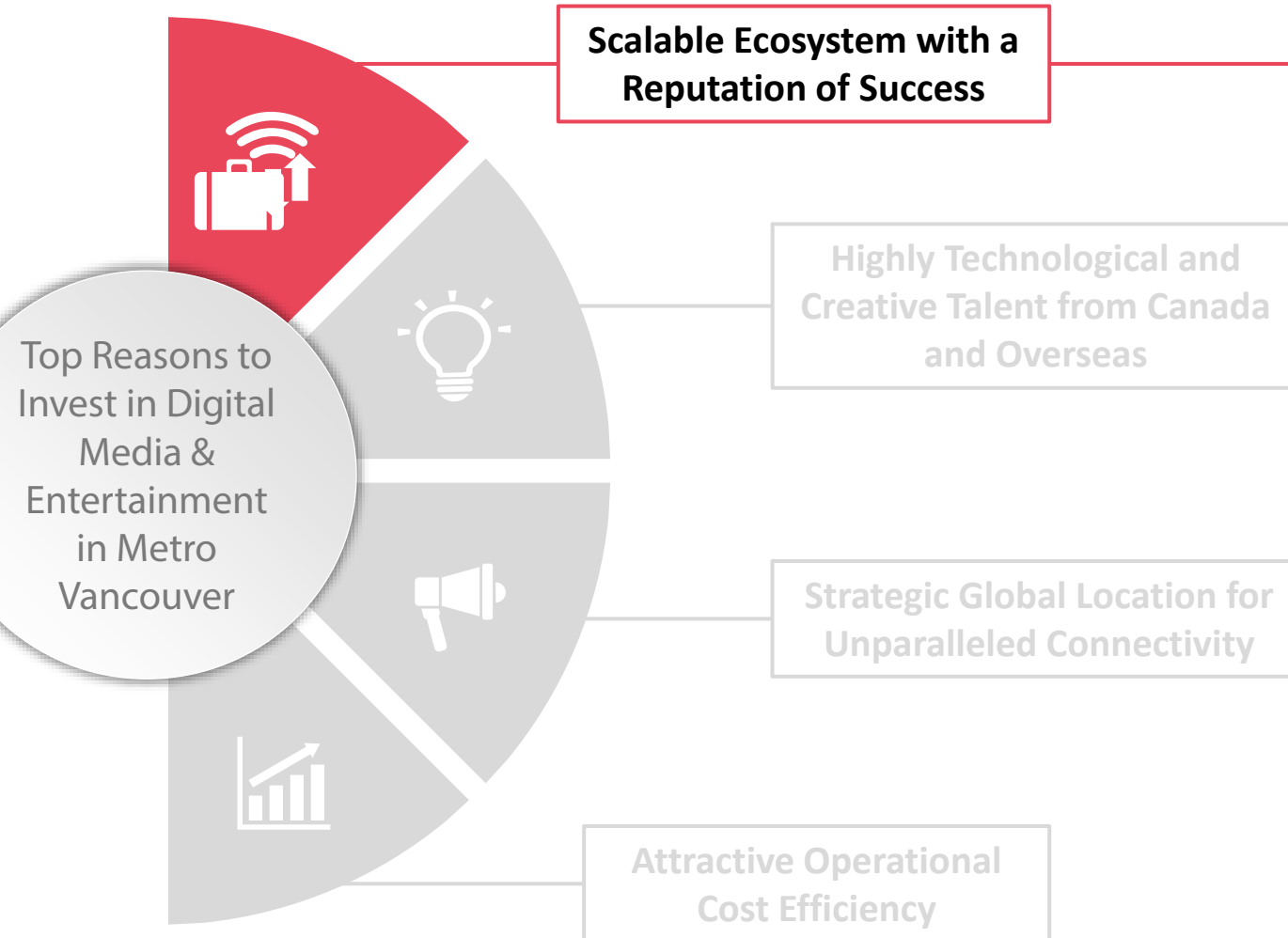
There are four primary investment messages, presented on the right in a rough order of significance.

These key value proposition serve as focal points for future investor deck presentations, website content, and social media communications, effectively amplifying the region's strengths and potential.

It is crucial to acknowledge that the narratives and messaging are dynamic, requiring continuous assessment and refinement to best align with the evolving profile of the competitive industry landscape.

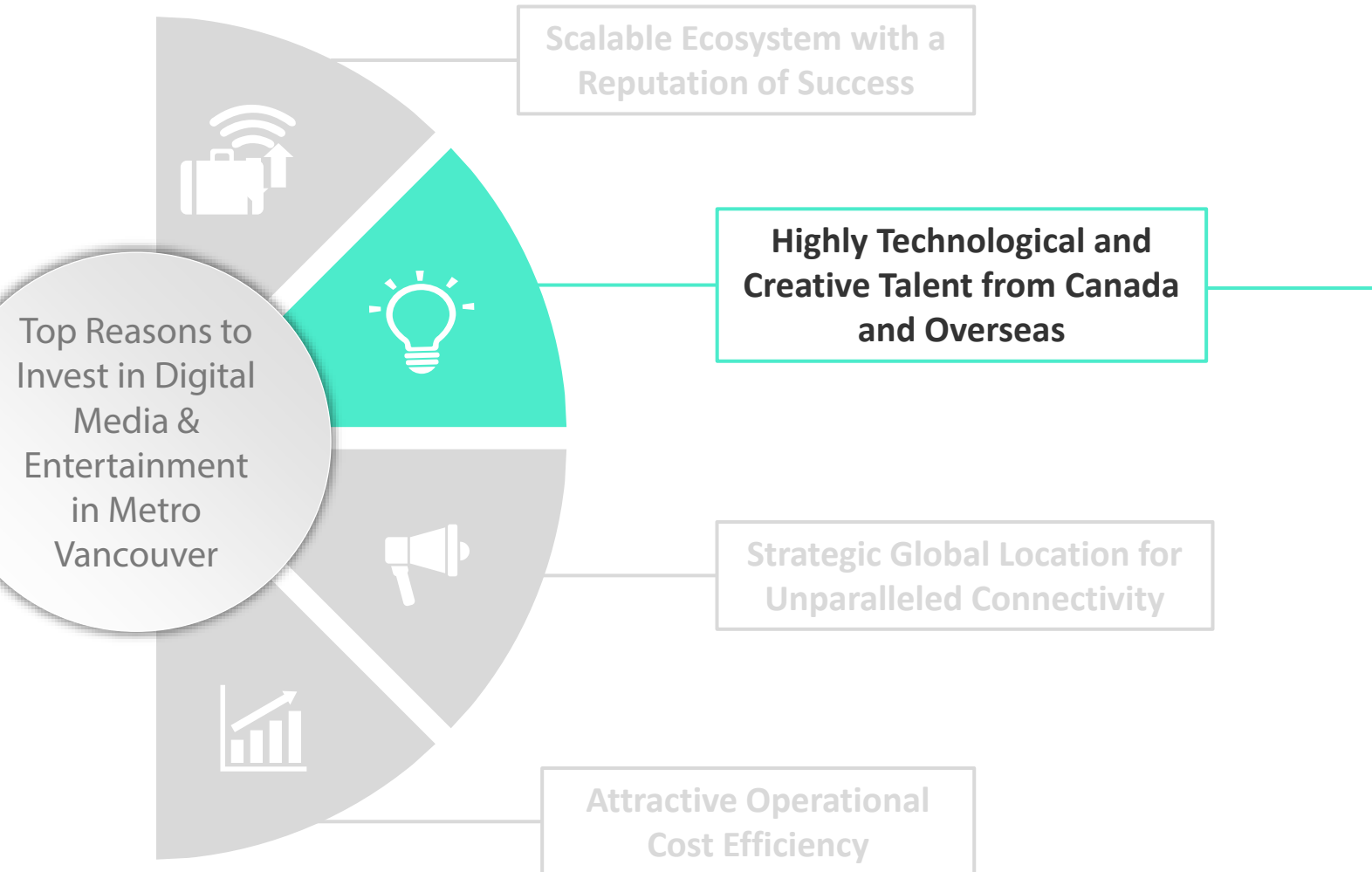


Summary of Metro Vancouver's Key Value Proposition



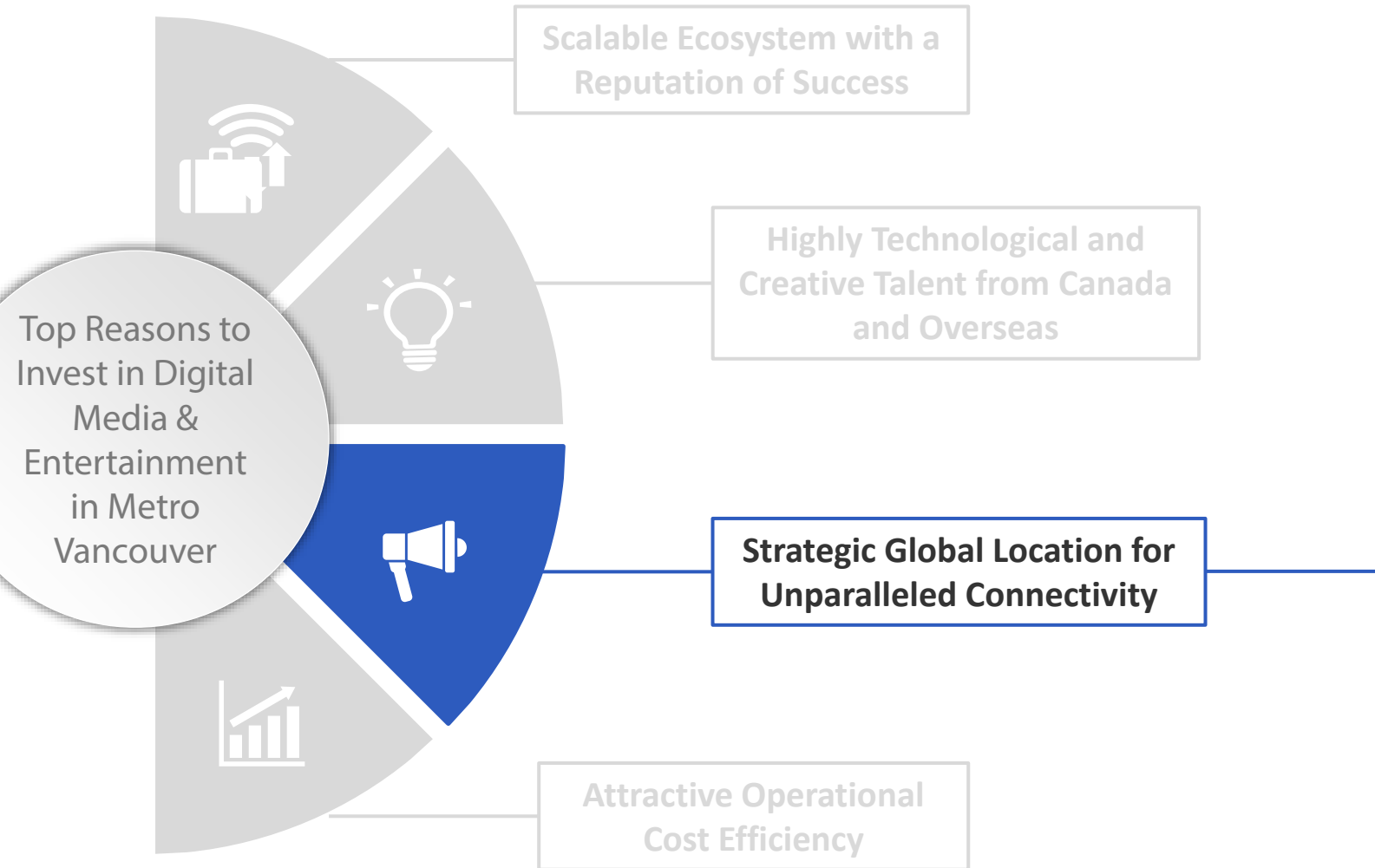
- Metro Vancouver's DM&E industry nearly 1,000 businesses, generating over 40,000 direct and indirect jobs.
- As the third-largest film & TV production centre in North America, Metro Vancouver lays a solid groundwork for Animation, Visual Effects, and Video Games.
- The region's growth is fueled by a comprehensive ecosystem ranging from tech giants, promising start-ups, industry associations, leading educational institutions, forming synergies and fostering industry advancement.
- Globally renowned creative companies and studios, including EA, Nintendo, DNEG, Walt Disney, Sony Imageworks, ILM, and more, have found success in Metro Vancouver, further reinforcing its reputation as a premier DM&E destination.

Summary of Metro Vancouver's Key Value Proposition



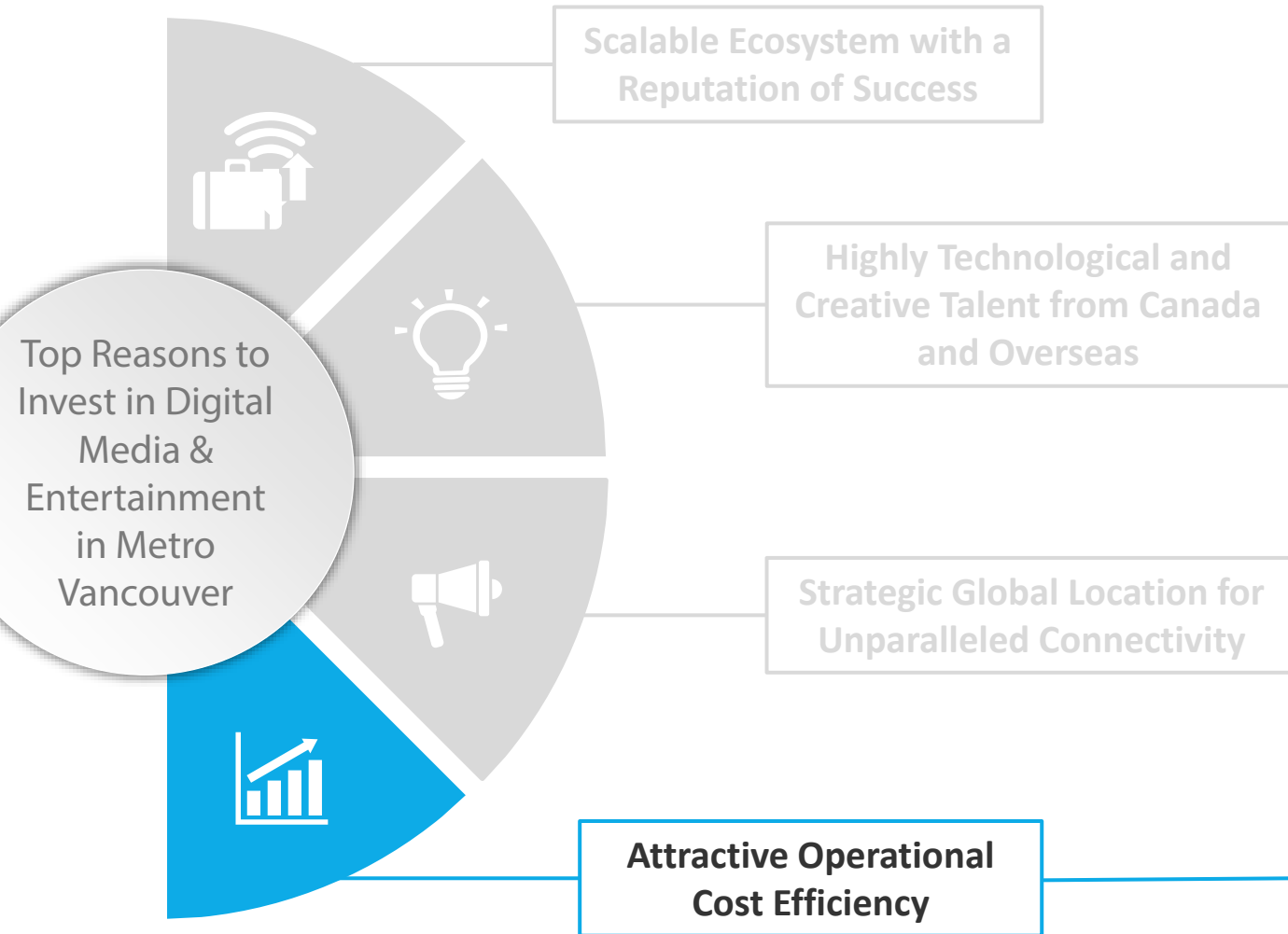
- Metro Vancouver benefits from a robust talent pool, comprising creative and technologically talented workers across various levels, from junior to senior positions. Canada's immigration policy focuses on attracting skilled labour to the country, offering various pathways for foreign individuals to pursue permanent residency, such as Express Entry, BC'S Provincial Nominees Program.
- Major post-secondary institutions (e.g., Centre for Digital Media jointly owned by UBC, SFU, BCIT, and Emily Carr University) actively engage in the DM&E industry, nurturing the next generation of industry professionals.

Summary of Metro Vancouver's Key Value Proposition



- Being in the same time zone and proximity to Los Angeles and Silicon Valley – largest creative and tech hubs in the world – ensures seamless communication and collaboration, allows for timely engagement with key industry players, enhancing partnership development and overall business success.
- Strategically situated on the west coast with connectedness to the fastest growing production and consumption markets including Japan, China, and ASEAN countries.

Summary of Metro Vancouver's Key Value Proposition



- Stable, predictable tax credit programs (e.g., IDMTC, DAVE) make the cost of tech talent – which is the primary cost in the DM&E industry – less expensive.
- Metro Vancouver benefits from diverse funding sources from public funding programs and growing investor communities

Future Considerations for Invest Vancouver

To bolster Invest Vancouver’s capacity to respond more effectively to investment enquiries related to DM&E sector and proactively engage with this dynamic and evolving industry, there are three strategic recommendations for Invest Vancouver’s future considerations:

Sector-specific Expertise

In-depth, regional level data and knowledge repository & ongoing industry trends experts



Collective Advocacy

Ecosystem approach to enhance competitive funding, global market access, and talent development



Consistent Brand Identity & Unique Service Offering

“Go-to agency” for inbound investment with customized service offering



1. Sector-specific Expertise

- **Expand research efforts to the sub-sector level** to enhance understanding of the global and Metro Vancouver’s trends and opportunities within the DM&E sector. Granular data and deeper insights allow more targeted and effective responses to investor enquiries.
- **Facilitate cross-functional knowledge sharing sessions** to ensure that insights gained from expanded research efforts are effectively disseminated across all teams within Invest Vancouver. By equipping teams across collaboration, marketing, partnerships, and other functions with comprehensive, sub-sector level knowledge, Invest Vancouver can foster a more aligned and informed approach to promoting the region’s strengths and success stories.

Future Considerations for Invest Vancouver

2. Consistent Brand Identity & Unique Service Offerings

- **Establish a clear and consistent brand identity** that positions Invest Vancouver as the “go-to” agency for companies looking to establish operations in the region. Maintaining consistency in marketing and communication efforts, including investor pitch decks and website messaging, will enhance credibility and reputation, attracting more potential investors.
- **Develop tailored service offerings** to meet the specific needs of different sub-sectors within the DM&E industry. Customized approach can include specialized business match-making opportunities, sub-sector specific assistance, ensuring that Invest Vancouver remains responsive to the diverse needs across DM&E spectrum, and ultimately enhancing the unique positioning and brand identity.

3. Collective Advocacy

- **Foster an ecosystem-wide effort** to gather industry insights and concerns, **informing senior government** officials’ decisions regarding tax incentives, talent development initiatives, and regulatory frameworks. By leveraging collective expertise and input from various stakeholders, Invest Vancouver can advocate more effectively for policies and programs that address the specific needs of DM&E sector. The collaborative approach ensures that government strategies align closely with industry priorities, ultimately fostering a more supportive business environment for investors.
- **Facilitate increased collaboration** among organizations, agencies, and communities through **sector-specific, B2B-focused conferences and events**. By creating platforms for networking, knowledge sharing, and partnership building, Invest Vancouver can stimulate innovation and investment, positioning Metro Vancouver as a vibrant hub for DM&E excellence.

Appendices

Appendix A | Consulted Parties for Discovery & Research

External Roundtable

Date: December 11, 2023

Participants:

- Colleen McCrank | Trade Commissioner, Global Affairs Canada
- Bob Wong | Vice President, Creative BC
- Loc Dao | Executive Director, DigiBC

Discussion Topics:

- Experience representing Metro Vancouver/Canada
- Investor Engagement
- Metro Vancouver's Competitive Advantage

Internal Roundtable

Date: December 15, 2023

Participants:

- Bryan Buggiey | Executive Vice President
- Sue Mah | Vice President, Collaboration (Term)
- Lejla Uzicanin | Vice President, Data, Research & Policy
- Karen Lamare | Sector Development Advisor
- Brock Lalla | Sector Development Advisor
- Nikola Fischerova | Business Development Analyst
- Aaron Aerts | Senior Advisor
- Peyton Winslade | Marketing and Partnership Advisor

Discussion Topics:

- Roles and goals
- Current processes and challenges
- Organizational positioning and visions

Appendix B | Key Industry Trends

Key trends affecting the trajectory of the Digital Media and Entertainment Sector:

- **Convergence and cross-sector adoption of new technologies** – The use of creative technology is supporting other economic activities and sectors.
- **Advent of generative AI** – AI and LLMs are providing new workflow opportunities but are also causing challenges for creative labor related to originality and attribution.
- **Use of game engines** – Game development environments are increasingly being adapted and adopted for use outside of games, including for virtual production, design work, and industry applications.
- **Consumer-side AR/VR** – Availability of AR/VR technology is making immersive media less niche and increasingly accessible to the general public in all sorts of social and cultural contexts.
- **Risk-averse investment climate** – The volatility of global and local markets following the pandemic are inciting more cautious investment decisions.
- **Inflation and increased cost of living** – The higher cost of everyday goods is impacting affordability for both creative workers and for companies.
- **Market course correction** – The rapid expansion of creative industries during pandemic is now decelerating, requiring sudden reductions resulting in layoffs, closures, and tax write-offs.

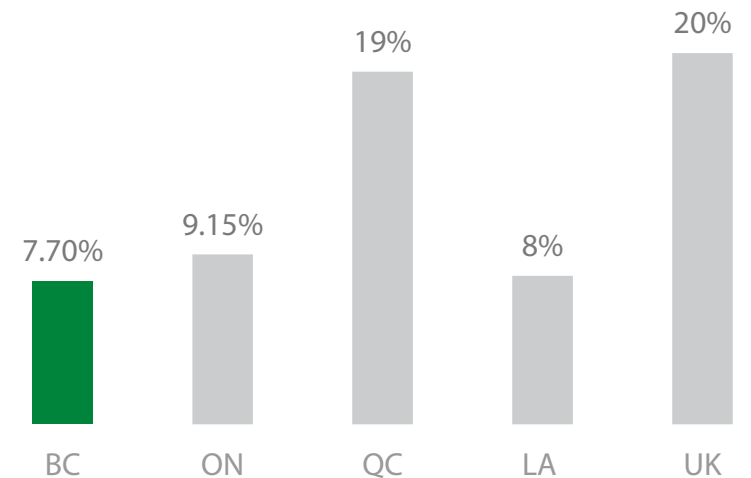
Appendix C | Personal Income Tax Rates Comparison



BC boasts the most favorable provincial personal income tax rates among all five jurisdictions, with a rate of 7.7% at the average salary for a digital media professional.*

- In Canada, for salaries above CAD 220,000, Ontario offers the lowest tax rate at 13.1%, and Quebec has the highest rates out of the three provinces.
- In Los Angeles, the tax is capped at 12.3%, which amounts to USD 67,876.49, plus the rate on any amount over USD 698,272.
- London (UK) has the highest tax rates among these jurisdictions, with rates ranging from 20% to 45%.

Personal Income Tax Rate at Average Market Income



*Considering an average salary for a digital media professional of \$71,991 CAD in Canada (source: Talent.com), \$68,924 USD in California (source: ZipRecruiter), and £40,000 in the UK (source: TotalJobs)

Appendix D | Metro Vancouver DM&E Supportive Ecosystem

The following is a non-exhaustive list of industry associations/agencies/advocates, incubator/accelerators, and research centres found in Metro Vancouver:

Associations/Agencies/Advocates

- BC Tech Association
- Vancouver Economic Commission
- Creative BC
- DigiBC
- Vancouver VR/AR Association
- Frontier Collective

Incubator/Accelerators

- BC Tech Hub
- Creative Destruction Lab
- Entrepreneurship@UBC
- HATCH Accelerator UBC
- Innovate BC
- Launch.vc,
- VentureLabs SFU

Research Centres

- Centre for Digital Media
- Media and Graphics Interdisciplinary Centre (MAGIC) at UBC

Appendix D | Metro Vancouver Ecosystem | Video Games

Educational & Training Programs*

- Vancouver Film School (VFS) -*Game Development Program*
- British Columbia Institute of Technology (BCIT)- *Bachelor of Science in Applied Computer Science with a Games Development option*
- Visual College of Art and Design (VCAD)- *Game development and design programs*
- Kwantlen Polytechnic University (KPU)- *Video game development Program*
- Emily Carr University of Art + Design – *Game development courses, including game design, programming*
- VanArts (Vancouver Institute of Media Arts)- *Game Art & Design diploma*
- Centre for Digital Media (CDM)- *Master of Digital Media program*
- University of British Columbia (UBC)- *Introduction to Game Development in Extended Learning Program*
- LaSalle College Vancouver - *Diploma in Game Art & Design*

Companies*

- A Thinking Ape Inc
- Archiact
- Blackbird Interactive
- Bluecurse Studios
- CD PROJEKT RED Vancouver
- Doll Divine Entertainment Inc.
- East Side Games
- Eden Industries
- EggNut
- Emerald City Games
- Epic Story Interactive
- Gasket Games
- Hellbent Games
- Hinterland Games
- Hothead Games
- Interdimensional Games Inc.
- Ironclad Games
- Kabam
- Kerberos Productions
- Klei Entertainment
- Kool Haus Games
- LBC Studios
- Luminawesome
- Metanaut
- Next Level Games Inc
- Night Garden Studio
- Northway Games
- Phoenix Labs
- Piranha Games
- Pixelmatic
- Raccoopack Studios
- Relic Entertainment
- SkyBox Labs
- Smoking Gun Interactive Inc
- The Coalition

*Not exhaustive

Appendix D | Metro Vancouver Ecosystem| Immersive Media

Educational & Training Programs*

- Vancouver Film School (VFS) - *VR/AR Design & Development Diploma*
- University of British Columbia (UBC) Extended Learning - *In partnership with Circuit Stream, UBC Extended Learning offers online project-based XR courses*
- Simon Fraser University (SFU) - *Master of Visual Computing Program*
- Vancouver Community College (VCC)- *VCC, in partnership with VFS, offers a VR/AR Design and Development program.*
- British Columbia Institute of Technology (BCIT)- *BCIT and Microsoft Vancouver partnered up to develop a VR/AR/MR curriculum*

Companies*

- Agency Inc.
- Polyform Design Studio
- TTT Studios
- Countable Web Productions
- YDX Innovation, Geomount Inc.
- Arrox Creative Studio
- Stambol Studios
- A-CX
- iMakerXR
- CADmechXR
- RealSpace3D
- CreativeHub Global
- Aequilibrium
- Idea Rebel
- Finger Food Studios Inc.
- Kocha Technologies Inc
- Archiact
- CadMakers
- Virtro Technology
- Precision OS
- VisionBox Inc.
- Blueprint Reality Inc.
- Lattice
- Dandelion
- Axiom Zen
- Lumen CR Inc.
- Northway Games Ltd.
- Immersive Robotics Inc.
- Archiact
- Ensemble Systems Inc.
- Moves Media Ltd.
- Momentus
- Shape Immersive
- Bighouse Productions
- Mobitshu

*Not exhaustive

Appendix D | Metro Vancouver Ecosystem| Animation

Educational & Training Programs*

- Capilano University's School of Animation and Visual Effects (AVFX)- *three separate 2-year diplomas in animation*
- Vancouver Animation School (VANAS)- *range of programs in animation*
- Langara College- *16-month intensive diploma program in 2D Animation & Digital Art*
- Vancouver Film School- *range of programs in animation*
- Emily Carr university of Art and Design – 3D Computer Animation program
- Visual College of Art & Design (VCAD)- *2D & 3D Animation Programs*

Companies*

- Animal Logic
- Animism Studios
- Anomotion
- Arcana Studios
- Atomhawk
- Atomic Cartoons
- Bardel Entertainment
- Big Bad Boo
- Cinesite Vancouver
- Creamy Animation
- DHX Media
- DNeg (Double Negative)
- Flying Kraken
- Framestore
- Giant Ant
- Global Mechanic
- Harbour Block Production
- Image Engine
- Industrial Light & Magic (ILM)
- Kickstart Productions
- Mainframe Studios
- MiMo Films
- Modeling Cafe
- Nitrogen Studios (Cinesite)
- Ocean Productions
- ReDefine
- Sequence Group
- Slap Happy Cartoons
- Sony Pictures Imageworks
- Stellar Creative Lab
- Thunderbird Pictures
- Titmouse
- Toon City Vancouver
- Urban Safari
- Walt Disney Animation Studios
- Wildbrain
- Waterproof Studios
- Zoic Studios

*Not exhaustive

Appendix D | Metro Vancouver Ecosystem| Visual Effects

Educational & Training Programs*

- Vancouver Film School (VFS)- *12-month diploma in Visual Effects*
- VanArts (Vancouver Institute of Art and Design) - *Visual Effects program*
- Capilano University's School of Animation and Visual Effects (AVFX)- *2-year diploma in Visual Effects*
- VCAD (Visual College of Art and Design of Vancouver)- *wide range of VFX-related subjects, such as 3D modeling, digital sculpting, matchmoving, and more.*
- LaSalle College Vancouver – *Diploma in VFX for Film & Television*
- InFocus Film School- *VFX Compositing Program*

Companies*

- Animism Studios
- Artifex Studios
- Atomhawk
- Atmosphere VFX
- BarXseven
- Barnstorm VFX
- BasilicFly Studio
- Cinesite Vancouver
- CoSA VFX
- Crafty Apes
- CVD VFX
- Digital Alchemy
- Digital Domain
- Distillery VFX
- DNeg (Double Negative)
- Encore FX (Framestore)
- Embassy VFX, The
- Entity FX
- Fun Square Productions
- FuseFX
- Fusion CI Studios
- Framestore
- GFZ Studios
- Gloo Studios
- Goh Van
- Goldtooth Creative
- Ghost VFX
- Halon Entertainment
- Hydraulx
- Icon Creative Studio
- Image Engine
- InFocus Film School
- Industrial Light & Magic
- Kalos Studios
- Lux Visual Effects
- Method Studios (Framestore)
- Modeling Cafe
- Pixomondo
- ReDefine
- Scanline
- Sequence Group
- Sony Pictures Imageworks
- Stargate Studios
- Stormborn Studios
- Third Floor, The
- TrackVFX
- WĒTĀFX
- Ziva Dynamics
- Zoic Studios

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