

# The State of Virtual Reality in Canada

## Pulse on VR: Situation Analysis Q2 2019

This situation analysis offers a glimpse at the major trends in Virtual Reality (VR). However, the remarkable growth of Augmented Reality (AR) and the increasingly blurry line between AR and VR – announcing the emergence of Mixed Reality (XR or MR) – support the progressive expansion of the scope of our situation analysis to all digital realities.

This document is also an opportunity to shine a light on digital realities in the enterprise space. Being one of the most promising segments of the VR/AR/XR industry, enterprise applications broaden the outlook of many verticals, from e-health to military, from retail to education and training.

### VR/AR market forecasts<sup>i</sup>

The VR industry slightly underperformed in 2018 notably because of the ongoing struggle to drive mass adoption. In fact, the revenue was projected to hit US \$8.8 billion by year-end 2018 while it actually totaled \$8.3 billion (6% delta). Nevertheless, global forecasts indicate a bright future for VR.

The VR global spending is expected to reach **US \$11 billion in 2019**, and to grow at a compound annual growth rate (CAGR) of 33% over the 2018-2023 period to **US \$34 billion**. The key segments supporting this growth will be enterprise applications (CAGR 84%), head-mounted displays (HMD, CAGR 43%) and location-based entertainment (LBE, CAGR 36%).<sup>ii</sup>

Augmented reality spending is projected to reach **US \$3.2 billion** this year, growing at a compound rate of 92% over the 2018 to 2022 timeframe. During this period, AR displays (e.g., headsets, glasses) will represent about 40% of all AR spending. Forecasts indicate that enterprise content will also be the fastest growing segment in AR, reaching US \$5.4 billion in 2022.<sup>iii</sup>

### Industry and market trends

An unexpected lesson learned from 2018 – and one reason behind the underachievement – is the relative **stalling of mobile-based VR**. Although Google ([Cardboard](#) and [Daydream](#)) and Samsung ([Samsung Gear](#)) heavily promoted their hardware and facilitated the buzz around VR, it appears that the two tech companies have momentarily shelved their plans for VR. Mobile-based head mounted displays (HMDs) are not as a crucial catalyst for widespread adoption as they were in earlier days.

The **emergence of standalone, untethered VR headsets** - which offer a more immersive, higher-quality, more flexible experience than mobile VR – is expected to drive faster adoption. Popularized by the [Oculus Go](#), standalone VR headsets also

include the [Oculus Quest](#), [Lenovo's Mirage Solo](#) (which operates on Google's Daydream platform) or the [HTC VIVE Focus Plus](#). Pricewise, this type of hardware is more accessible than computer powered HMDs and require less logistics and set-up time.

On the higher end of the spectrum of VR hardware, **PC-based tethered VR systems** are supported by increasingly powerful computers and feature the best of the best in terms of resolution, refresh rate or field of view – critical characteristics when it comes to immersion and comfort. The growth in PC-based HMDs shipments was primarily driven by enterprise users in 2018, who need more reliable, higher fidelity systems. With the technological progress made in the near future, it is forecast that standalone HMDs will embark, in turn, leading edge technology. This simplicity of access will make standalone HMDs even more competitive and entice a larger audience currently discouraged by the price and the heavy logistics of tethered HMD, whose market share is therefore projected to decline.

Continuing the trend observed in 2017, **location-based entertainment** (e.g., VR arcades) remains one of the key drivers of growth on the VR market, from hardware to content. Moreover, it is an entry point for many consumers who get to experience VR in the best conditions possible, with the best hardware and the most exciting content. Forecast indicate that VR location-based entertainment will represent US \$11 billion globally by 2023.<sup>iv</sup>

Content-wise, the VR market is **highly competitive and concentrated**. Only a few titles stand out from the entertainment content market. The rhythm game *Beat Saber*, a great example of viral application, hit one million downloads in Q1 2019.<sup>v</sup> The market then comprises a small number of revenue positive games but the vast majority of titles struggle to find their audience.<sup>vi</sup>

Finally, and despite the relatively disappointing year, **stakeholders are confident** in what the future of VR holds.<sup>vii</sup> The convergence of technologies (VR/AR/XR), the deployment of 5G, the refinement of artificial intelligence and the sophistication of features like eye-tracking will push the boundaries of our current definition of digital realities. Furthermore, the market is showing healthy signs and forecasts announce thriving growth in several segments, like the enterprise applications.

## A closer look at enterprise VR/AR/XR

According to Greenlight Insights' forecasts, the most promising segments in enterprise VR are: Education, Government and military, Retail and marketing, Healthcare and Architecture, engineering and construction (AEC).<sup>viii</sup>

Let's briefly review the most exciting use cases implemented by business and spotlight some Canadian success stories.

- **Education and training**

Digital realities can help instructors grab the attention of young – and older – minds. Thanks to VR and AR, teachers can invite their students to be part of history through a historical simulation or take them to virtual field trips. For instance, [Parks Canada](#) collaborated with Google Expeditions, a learning tool developed by the Mountain View company, to create virtual journeys to discover Canada's hidden gems.

VR simulations can also help prevent workplace accidents for high-risk occupations. [VR Vision Group](#) (based in Toronto) worked with Alchemy Systems to develop a fire safety training VR simulation that was well received by hundreds of professionals during the Alchemy Engage Expo.

- **Retail/Marketing**

Digital realities are poised to revolutionize marketing and retail by creating a whole new level of engagement between the consumer and the brand. Whether it be for enhancing the shopping experience (layer of AR information on a specific product, virtual tryouts), or for creating engaging branded content, new realities emerge as efficient and effective tool to drive revenue growth. [Imagine360](#), a studio established in Montréal, is one of the many agencies that specialized in immersive, interactive and innovative experience for brands.

- **Government and military**

Virtual Reality enable government to train recruits in safe, true-to-life environments. [Bluedrop Training and Simulation](#) (with offices in Nova Scotia and Newfoundland and Labrador), has for example developed a [multipurpose gunnery mission trainer](#): a cost-effective solution where operators can influence the mission scenario and customize the environments.

- **Healthcare**

VR and AR developers and researchers have identified many use cases for these technologies in the e-health industry. VR has proven to be helpful to patients suffering from anxiety or depression<sup>ix</sup> or senior citizens<sup>x</sup>. Digital realities can also assist practitioners and surgeons during delicate procedures. [Simforhealth](#), a French company with an office in Quebec is a specialist of custom-made virtual simulators for healthcare professionals.

- **Architecture, Engineering and Construction**

Virtual reality is a wonderful tool for the construction and real estate business. Thanks to room-scale, hyper realistic simulations, it has become easier to pitch a project and to attract investors and future tenants. Real estate immersive experience can even include interior design components, where the virtual room can align with the buyer's tastes. If you want more information about VR real estate use cases read our case study with Vancouver-based studio [Stambol](#).

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<sup>i</sup> Forecasts provided by Greenlight Insights

<sup>ii</sup> 2019 Virtual Reality Industry Report, Greenlight Insights

<sup>iii</sup> 2018 Augmented Reality Industry Report, Greenlight Insights

<sup>iv</sup> 2019 Virtual Reality Industry Report, Greenlight Insights

<sup>v</sup> ['Beat Saber' VR Slasher Hits 1 Million Downloads, Releases New 10-Song Monstercat Music Pack](#), Forbes

<sup>vi</sup> [Webinar: State of the XR Market – What are the Latest Tech Innovations and Where's the Growth?](#), VR Intelligence

<sup>vii</sup> See [Pulse on VR case studies](#)

<sup>viii</sup> Virtual Reality Industry Report, Enterprise Edition, Greenlight Insights

<sup>ix</sup> [Virtual Reality Exercise for Anxiety and Depression: A Preliminary Review of Current Research in an Emerging Field](#), Zeng N, Pope Z, Lee JE, Gao Z.

<sup>x</sup> [How VR Can Help Seniors With Dementia](#), Healthline