ARtillry

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ARTILLRY INTELLIGENCE BRIEFING

THE STATE OF VIRTUAL REALITY

JULY 2017

ARtillry

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Executive Summary

ARtillry Insights are monthly installments of VR/AR data and analysis. They bring together original and third party data to reveal the dynamics of VR and AR sectors, and their opportunities.

In addition to data, a layer of insights is applied to translate market events and raw figures into prescriptive advice for VR/AR players. This takes form in a narrative story arc, grounded in market figures.

This report specifically looks at the current state of VR adoption. It starts with hardware (HMD) sales figures, followed by an analysis of each platform's unique attributes and success factors.

In addition to hardware, we examine the apps that show the most activity and usage at this stage of VR's evolutionary path. What makes them successful, and what lessons does that hold?

The following pages examine these questions through a combination of data and narrative. Questions and requests for deeper analysis can be submitted at **https://artillry.co/contact/.**

Part I. Hardware Adoption By Platform

Units Sold: Summary

Tier 1	
Playstation VR	1M
HTC Vive	.42M
Oculus Rift	.24M
Tier 2	
Samsung Gear VR	5M
Google Daydream	.26M
Tier 3	
Google Cardboard	10M
Total Units	**16.92M**

Units Sold: Breakdown

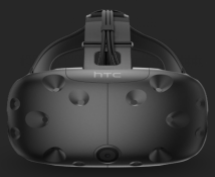
Tier 1

Playstation VR

Price: **$399 (plus PS4 console)**
Estimated Units sold: 1 million

Analysis: PSVR's unit sales are greater than the Rift and VIVE because out of the gate, it's already compatible with an installed base of 60 million PlayStation4 units. That increases its addressable market and lowers the adoption barrier for many consumers, given that competing headsets require a designated PC purchase. However the PSVR lacks some of the feature advantages of competing systems such as resolution, field of vision, and its content library is narrower and focused mostly on games. Conversely, PSVR exceeds its Tier-1 competitors when it comes to social features. For example, it lets friends and family participate in or spectate VR experiences by mirroring game play on a nearby television. This adds a participative dynamic to some of VR's otherwise-isolating tendencies, and has boosted overall satisfaction levels, especially in family households.

HTC Vive



Price: **$599 (plus dedicated PC)**
Estimated Units sold: .42 million

Analysis: The Vive has the second highest unit sales in tier 1, mostly due to its longer tenure in the market. Due to supply chain and shipping delays, the Oculus Rift and PSVR entered the market later in 2016. Other Vive advantages include a better room scale tracking system (Valve's Lighthouse system) and more available content. The latter is a function of its content distribution model that

utilizes the Steam platform, which is open for developer submissions. This has made it a favorite among developers. This is analogous to Microsoft's position in the PC world, compared with Apple's more gated approach to approved software. It is a double-edged sword as more content provides volume, but also quality control challenges. Vive has developed as more of an enterprise product (again like Microsoft) compared to the Oculus Rift's greater consumer appeal.

Oculus Rift

Price: $399 - $499 (plus dedicated PC)
Estimated Units sold: .24 million

Analysis: The Rift experienced many launch delays in 2016, including its anticipated Touch Controller. The hand controllers are now known as superior to competing HMD inputs, however delays to market hurt the Rift's market share. As stated above competitor HTC Vive has taken an open approach to content development; Rift has taken the opposite approach with a more strict set of standards for content distributed in its Home software distribution platform (again, like Apple). This has made it more of a consumer favorite, while developers and enterprises gravitate more towards the Vive's open and customizable parameters. Though the Rift has superior hand controllers, its room scale tracking system is inferior to HTC Vive. Rift further positioned itself advantageously in July when it dropped the bundled price of its headset and touch controllers to $399 (previously $599).

Tier 2

Samsung Gear VR

Price: $99 - $129 (plus compatible smartphone)
Estimated Units sold: 5 million

Analysis: Gear VR is the best selling headset on the market, due partly to its low price and the inherent benefits of mobile VR. Headsets in this category utilize the device that many consumers already own, rather than requiring an additional costly PC rig. Gear VR's sales volume also result

from its tenure in the market. Its closest competitor — Daydream View — only recently entered the market (October 2016). However, Daydream has the potential to outpace Gear VR due to Google's reach and developer network (see below). Samsung is further challenged by the stain left by the Galaxy Note 7 recall. Beyond PR, the loss of that device drastically reduced the addressable market of compatible Gear VR handsets, creating a gap for competitors.

Google Daydream View

Price: $59 - $99 (plus compatible smartphone)
Estimated Units sold: .26 million

Analysis: Though Daydream View entered the market later than Gear VR, we believe it will outpace its tenured counterpart. Its growth and eventual market share will result from Google's advantages. For one, it has a massive developer network built from the Android operating system, on which the Daydream platform is based. This will amplify the device's consumer appeal with more content. That content will then compel more device manufacturers to build Daydream-compatible handsets. This virtuous cycle will create a more attractive choice for consumers than Gear VR. Its growth will mirror (in magnitude and model) that of the Android mobile operating system. Importantly, Google is also motivated and vested in Daydream becoming the center of the next major computing platform — just as it did with Android and the smartphone revolution. This outlook indicates that Google will put a lot of muscle behind the Daydream platform.

Tier 3

Google Cardboard

Price: $0 - $15 (use with any smartphone)
Estimated Units sold: 10 million

Analysis: Google Cardboard matches Gear VR for the highest selling VR headset, though some consider it not worthy of that designation. It has achieved this status due simply to one factor: cost. Literally made of cardboard, it requires low cost components and a wide compatibility of smartphones. Much of its market penetration in fact has been a result of promotional giveaways in conference SWAG bags or the New York Times' famous cardboard distribution campaign. This was to seed its VR content for embedded reporting and video essays. The user experience is rudimentary, but has served to many as the "gateway drug" for VR. Google will put more effort into Daydream (and its Tango AR platform), but cardboard will still be supported in efforts to distribute VR to developing nations and within schools globally.

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About ARtillry Insights

ARtillry Intelligence partners with the VR/AR Association to deliver a research package. Known as *ARtillry Insights*, it will equip subscribers in AR and VR sectors to make informed business decisions.

FEATURES

Original Research: Monthly original reports examining opportunities and dynamics of VR and AR.
Curated Research: ARtillry analysts collect, analyze and filter recommended reading and data.
Indexed Intelligence: Archived reports and multimedia assets, all in one place.

EDITORIAL CALENDAR

June: The State of Virtual Reality (published)
July: Tech Giants Tackle AR (published)
August: VR Usage & Consumer Attitudes (published)
September: When will AR & VR Reach Consumer Ubiquity (forecast)
October: Discussions & Takeaways from AR & VR Investors
November & Beyond: To Be Announced…

COST

VR/AR Association Members: **$39/month**
Non-VR/AR Association Members: **$89/month**

https://youtu.be/WTruV4arTl0

About ARtillry

ARtillry is a publication and research firm that chronicles the spawning of augmented reality (AR) and virtual reality (VR). Through writings and multimedia, it provides deep and analytical views into the industry's biggest players and opportunities.

Run by career analyst and journalist Mike Boland, coverage is grounded in a disciplined and journalistic approach. It also maintains a business angle: Though fun and games permeate VR and AR (especially the former) long-term cultural, technological and financial implications are primary.

Learn more at **https://artillry.co/**

About Intelligence Briefings

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About the Author

Mike Boland was one of Silicon Valley's first tech reporters of the Internet age, as a staff reporter for Forbes (print) starting in 2000. He has been an industry analyst covering mobile and social media since 2005, and is now Chief Analyst of ARtillry, covering emerging tech.

Mike is a frequent speaker at industry conferences such as VRLA, ad:tech and LeadsCon. He has authored in-depth reports on the changing tech & media landscape including social networking and mobile. He contributes regularly to highly read online news sources such as TechCrunch, Business Insider and the Huffington Post.

A trusted source for tech journalists, his comments have appeared in A-list publications, including The New Yorker, The Wall Street Journal and The New York Times. Mike was previously a San Francisco-based journalist for business and technology print publications, such as Red Herring, Business 2.0, and Mobile Magazine.

Note of Disclosure

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