

**What you should know:** Sophic Capital is at the 2016 Game Developers Conference (GDC) in San Francisco. This is our third consecutive GDC, and what a difference two years makes for the advancement of VR. Two years ago Oculus demoed the DK2, and people were blown away. That quickly resulted in Facebook buying the company. Last year new HMDs entered including HTC Vive and Sony's Project Morpheus (now called "PlayStation VR" or "PSVR"). This is the year of content, which we have always said will drive VR adoption.

**VR has still not taken off but should soon:** Given Gear VR and low-tech HMDs like Google's Cardboard are the only HMDs that are really in the hands of some consumers, VR is still in the very early stages of adoption around the world. We spoke with a Chinese firm that analyzes mobile device usage in China. Representatives shared data indicating that games consumed the most amount of time on smartphones, and when we asked if virtual reality gaming was increasing, they responded negatively. Virtual reality has not taken off in China but offers a huge market for the country's 400 to 500 million gamers. The representatives anticipate that virtual reality will gain market share as Oculus and HTC's Valve release their consumer platforms within weeks, and Sony releases PlayStation VR in October.

**SKonec Entertainment puts Korean VR content on the map:** We were shocked to learn from three Korean gaming companies that we spoke with that Korean gamers are also slow to adopt VR. The Land of Morning Calm, Korea, is home to Samsung's Gear VR platform, yet Koreans have avoided it in spite of some companies offering the HMD for free with the purchase of a Samsung smartphone. A coder from SKonec Entertainment, one of the game development companies, told us the main reason was because many Koreans had high hopes for 3D television. The lack of 3D content killed 3D television, and Korean tech enthusiasts drew parallels to VR's lack of content. Now with HMD platforms about to be released, several Korean game developers, including SKonec Entertainment have created VR content. In fact, SKonec Entertainment has made VR titles for both PlayStationVR and Gear VR.

**Content, Content, Content:** Developers have been busy and are now clearly embracing VR as a gaming platform. Even just last year we were unsure that there would be enough content to get VR to really take off in the consumer market. This year we can say we are now convinced the content is there to support the upcoming consumer launches. Oculus will launch with 30 titles, HTC said that the Vive will launch with 50 titles and will stream Valve's entire gaming catalog via Valve's SteamVR Desktop Theater mode, and PSVR was already previewing over 20 games at E3 with Star Wars to exclusively be on PSVR. The HMDs are here, but more importantly the content looks fantastic and could be the boost the high-end HMDs require to get early adaptors to pay hefty price tags.

**3D audio enhances the VR experience:** We tried Vive for the second time at Ossio's booth, a company showcasing its 3D audio technology, and once again came away impressed with both the Vive and Ossio's audio. Vive's rendering was smooth; it flawlessly tracked our movements; and the tethering cable wasn't noticeable. Ossio's audio was true 3D and combined with HTC's Vive, we found the combination one of our most immersive virtual reality experiences. We are still not sure how many people are going to clear a room in their house to accommodate the Vive set-up, but Vive's VR experience is amazing.

**Gear VR content expands:** We've tried Samsung's Gear VR HMD several times in the past and came away with "ok" impressions. Generally, we still find most applications to be hard on the eyes compared to the higher-end tethered devices. We tried it again at GDC with the intent to see what kind of content is available. The answer – a lot. We slipped the HMD over our head and scrolled through pages of content, settling upon a LeBron James training video. It wasn't virtual reality but 360° video, and it was impressive watching him drive around us to dunk a basketball and hang out with him at the gym. The Gear VR is good example of a platform that has made it easy for developers to create content and will continue to seed the market for VR. Ultimately we think people will want higher and higher end graphics – think about TVs; first we had HD, then 4K, and already people are talking about 8K and 16K.

**Reconnecting with an old friend:** We've written about haptics (feedback through the sense of touch) before. Miraisens, a Japanese, 3D haptics firm that was buried in a dark corner at GDC 2015, returned in 2016 with a large booth outfitted with several late stage prototypes that should be commercialized this year. The demos were impressive, and we think this is a company that will positively impact 2D and VR gaming.

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