



Distributing and Monetizing 360° Video in Virtual Reality

From the initial gamer-only enclaves, to mainstream sports and live events, Virtual Reality (VR) is definitely cool and trending. Consumers are demanding more creative immersive experiences, and premium content service providers require a solution that allows them to provide high quality 360° video content at scale, and the means to monetize it. VR Head-Mounted Device (HMD) availability and consumer acceptance of the technology are also promoting the uptake in VR.

The inclusion of 360° video will be a powerful differentiator in OTT offerings to consumers, especially when it comes to live content.

Challenges

High resolution video and audio

In today's OTT environment, premium content service providers are looking beyond what's being watched via set-top boxes, encompassing everything from smartphones to tablets. For premium content service providers to deliver premium VR/360° content, the video resolution must be exceptional, such as UHD/4K today, 8K tomorrow, while maintaining appropriate bandwidth requirements. Higher resolution video and audio also has to be delivered on a variety of devices, yet the definition of open standards for VR technology is still in the early stages.



Monetization and content protection

Because of the high costs of producing premium quality experiences, premium content service providers must find ways to monetize their offerings to help offset these expenses. This may start with implementing content protection mechanisms (such as DRM) adapted to the VR constraints.

Ad-based monetization

With regards to ad-based monetization, VR is well adapted for product placement (2D or 3D objects), as the experience can be individualized so that ads become part of the experience. As data collected from VR devices' multiple sensors is leading to an explosion in volume, variety and velocity, premium content service providers require a scalable analytics platform that addresses viewers' requirements for greater privacy and safe data management.

Ensuring that premium content service providers can successfully monetize immersive TV experiences requires not only data-driven monetization capabilities, but also knowledge of the changing market and legal requirements. Partnering with a technology vendor that enables a smarter and safer TV experience is critical.

Benefits

Highest deployment standards

- VO offers 20+ year of hands-on experience in deploying complex multi-device projects
- Benefit from the most trustworthy platform for premium live and on-demand streaming TV services (Virtual Arena and the VO's secure player its playback technology foundation)
- Effortlessly deploy and operate with this end-to-end, pre-integrated solution
- Gain from VO's solid project management experience and efficient support capabilities

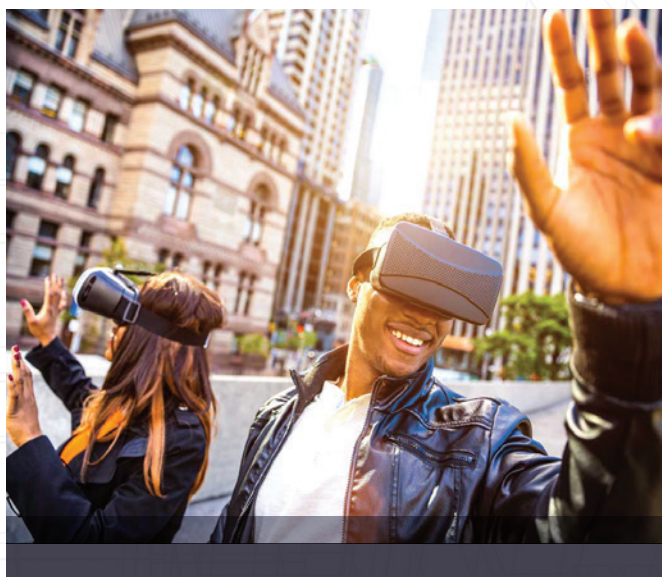
Monetization Capabilities

- Utilize the widest range of monetization options, through content protection solutions, advanced analytics for data-driven models, and support for new advertising formats

- Easily build personalized offerings that enable customer retention
- Effortlessly manage campaigns with a single pane of glass

Premium Customizable Experience

- Utilize the most advanced, cutting-edge technologies for both video and audio decoding
- Benefit from significant improvement in bandwidth utilization through HEVC encoding and tiling
- Employ fully customizable VR applications that embed many interactivity features such as audio chat, sharing via social media, on-line and offline statistics and multi-camera view
- Deploy on any platform (HMD as well as flat devices)



Viaccess-Orca's Virtual Arena

Award winning solution

One of the most advanced solutions for premium, 360° video streaming (live and on-demand), VO's Virtual Arena offers a comprehensive, best-of-breed solution for delivering and monetizing content on multiple devices, including flat screens and head-mounted displays. This solution has already been recognized for two awards, most recently winning Best Innovation in Immersive Content Creation at TV Connect 2017, and previously the Best Virtual Reality Innovation (CSI Award 2016).

Feature Highlights

360° Secure Player

- Available as an SDK to be integrated into a downloadable application
- Plays protected content on multiple platforms, including iOS and Android
- Incorporates a comprehensive set of content protection technologies and services for a wide range of devices
- Offers comprehensive DRM protection for live and on-demand content
- Allows content premium content service providers to recoup investments in production of high quality video experiences, through a variety of business models

VR 360° Analytics platform

- Offers advanced capabilities, such as data collection from multiple device sensors and heatmaps that highlight where users are gazing
- Audience measurement charts display peaks and troughs on top of the video, which indicate when users leave the experience
- Integrating privacy-by-design, VO's VR360° Analytics platform indicates how the audience reacts to the content to drive viewer engagement and how premium content service providers can create data-driven monetization opportunities from immersive video experiences



Advertising

- Advertising is leveraged with targeted ads, recommendations and more with a high level of customization using product placement as interactive, clickable 3D objects, or ad banners
- Campaigns can be managed from a simple interface to the benefit of brands and content premium content service providers

Multi-device applications

- Highly interactive and customizable
- VR applications enhance the quality of the immersive experience and enhancing the video streams (including live streams) with overlay, statistics (as in sports events) or social features



Virtual Arena - Premium Immersive Experience

Viaccess-Orca's Virtual Arena sets the standard for 360° video quality. Coupled with business analytics and targeted advertising, it constitutes the best solution for monetizing premium immersive experiences on every screens (HMDs as well as flat devices).

VO's secure player, already used by millions of users all over the world, is the core component of the Virtual Arena solution. It is compliant with the most popular transport protocols like Dash and HLS, and pre-integrates with advanced 360° video distribution techniques like tile-based streaming allowing users to reach the highest resolution at reasonable bitrates.

VO's secure player also supports spatial audio based on Ambisonic's technology, providing sound up to the fourth order. It delivers advanced binaural synthesis and low latency head tracking for best-in-class performance. Content protection is embedded in VO's DNA, therefore VO's secure player delivers the utmost level of security as in all of VO's line of premium video content solutions. In particular, the all-inclusive security chain provided by VO leverages its unique experience in dealing with Hollywood Majors' requirements.

Virtual Arena - Extending to a Complete Best-of-Breed Solution

To extend the Virtual Arena to a fully-comprehensive solution, it has been pre-integrated with a rich ecosystem of partners, such as Harmonic, Digital Immersion and others. VR/360° video content service providers can thereby benefit from a first-class turnkey solution including on-site capture, production and post production,

content preparation and management, monetization and content distribution on multiple platforms.

Tailored for live events, this unique VR solution provides first-rate experiences for all video consumption modes, in particular multi-user experiences enriched with social interactions.



Proven and deployed at TF1 with the world's first live streaming of a sports event in 360° and in Ultra HD to VR headsets.



Sky Italia partnered with VO, Harmonic and VideoStitch to reinvent sports fans' engagement through VR.

About VO

Viaccess-Orca is a visionary partner for premium content service providers worldwide, thanks to its ability to shape the ultimate content experience wherever viewers are and on whatever device they choose. The company assists premium content service providers in creating long term loyalty on the customer journey to discover, choose and consume content in a secure manner. Viaccess-Orca is part of the Orange Group. For more information, visit www.viaccess-orca.com



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