

MediaKind Universe - Contribution & Distribution



MediaKind's innovative Contribution & Distribution solutions enable content providers, broadcasters, operators and service providers to securely and reliably acquire, backhaul, and distribute the highest quality content anywhere, which ensures viewers around the world never miss a minute of the action.

Live event market challenges

Content providers and operators are continually seeking ways to differentiate services, reduce churn and generate new revenue streams. Live sports and eSports tournaments have a number of desirable use-cases and applications for 360° viewing experiences while the music industry is looking to VR as a way of increasing event revenues.

Until recently, one of the biggest challenges of delivering and consuming live 360° content is that it is experienced

at relatively low quality, and any content of this nature delivered at higher resolutions required significant download time or local playback. Another key challenge for 360° video is how delivering immersive live and on-demand VR content is not only experienced on head- mounted displays but how this can be enjoyed as a companion experience to consumer's multiscreen devices while viewing the same big screen live event.

Cygnus 360° Events solutions values

- Differentiate high value events coverage with immersive or companion experiences building higher fan engagement and loyalty, and increased advertising and sponsorship revenue opportunities
- Simple single workflow for multi-format 360° video processing and publishing of live events to bring consumers closer to the action
- Rapid and agile cloud based workflow with event-by-event provisioning

- Achieve best picture quality and bandwidth efficiency for consumer delivery to your managed client app with ClearVR** tile-based 360°
- Access wide consumer and device reach with publishing events to YouTube 360
- Workflow development and support provided by trusted partner MediaKind

Where is Cygnus 360° Events solution deployed?

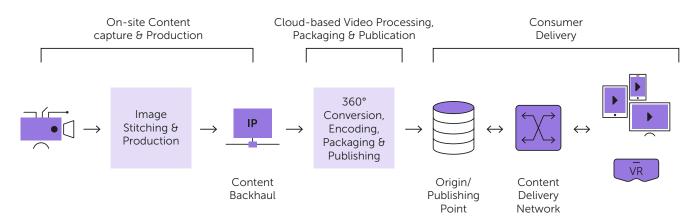
During December 2018 MediaKind pushed the boundaries of immersive consumer experience of live sport by streaming the world's first multi-channel 6K 360-degree live sports event in collaboration with Deutsche Telekom and technology/production partners.

The multi-camera 360-degree live streaming showed the match between Telekom Baskets Bonn and EWE Baskets Oldenburg from the Telekom Dome in Bonn, Germany. The live streams were delivered to customers of Deustche Telekom's commercial Magenta VR service via a consumer app.

MediaKind led the technical project management, working alongside Deutsche Telekom and other technology and production partners to create and manage the entire live end-to-end system. This innovative demonstration and delivery of 360° video illustrated how 360° viewport adaptive ClearVR** video can augment the traditional live broadcast consumer experience and bring fans closer to the action.

^{**}ClearVR technology developed and licensed by Tiledmedia

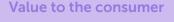
Cygnus 360° Events solution workflow



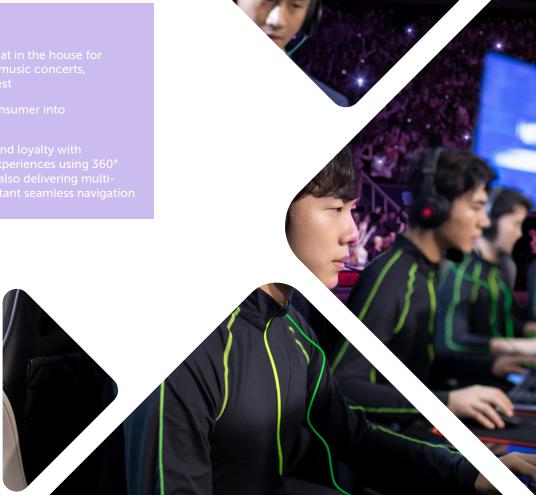
Cygnus 360° Events provides a simple workflow with single format capture on-site at the event and public cloud hosted multi-format 360° video processing and publishing for delivery to consumer devices. The solution from MediaKind enables the following;

On-site at the event location your production team will capture the event in high resolution 360° video. The compressed Equirectangular Presentation (ERP) output of the 360° camera image stitching and production tool used by the production team is backhauled from the venue into the public cloud over your, or your selected networking providers, IP link. MediaKind provides a unique software application used by the production team to upload the live content into the cloud. This software application also provides operator functions to allow your team to test the performance of the network connection prior to the event, and monitor connectivity during operation and delivery.

Cygnus 360° Events uses the elasticity of public cloud to provide event-by-event based multi-channel multi-format video processing and publishing for 360° video which can be turned off as soon as the event is completed. In the cloud each compressed ERP live video received from the event is decoded and then for each output format goes through a conversion, video processing, packaging and publication flow. Cygnus 360° Events supports 360° video processing for ClearVR** tiled-360° format with publishing and delivery over public CDN; and processing & publication into the ingest for YouTube 360.



- Put the consumer in the best seat in the house for their favorite content – sports, music concerts, eSports, news, and public interest
- Monetize events putting the consumer into unique viewpoints
- Build greater fan engagement and loyalty with enhanced companion device experiences using 360° not just for 360° viewpoint but also delivering multicamera angle 2D views with instant seamless navigation



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