

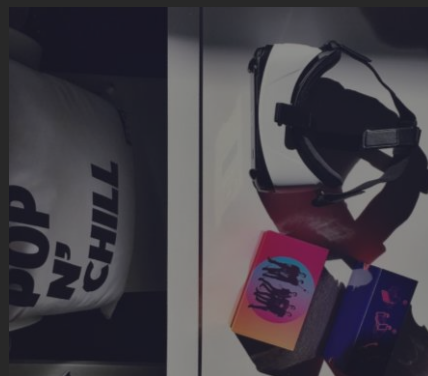
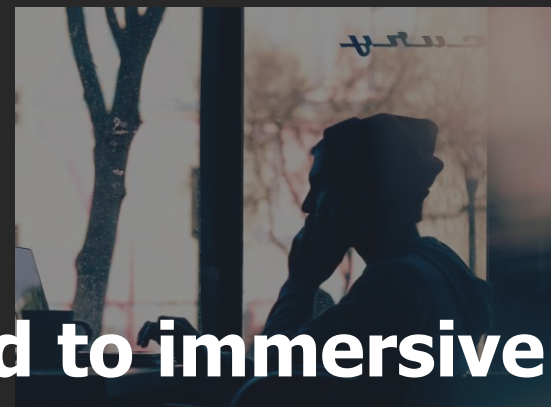


# LITTLSTAR

The world revolves around you



**The largest global platform dedicated to immersive content**





# Content Owners Trust Littlstar

We distribute & power experiences for the largest studios, publishers, labels, and brands.

3,000+ Titles and Experiences

350+ Studios, Publishers, Labels, and Brands

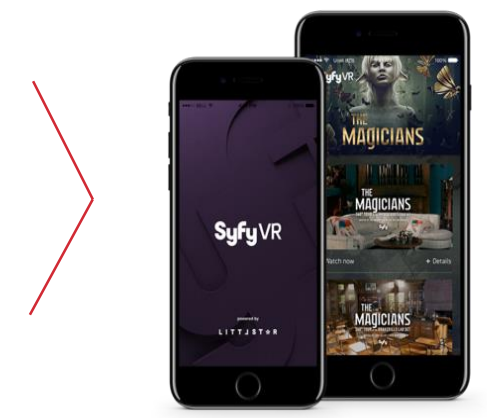


70 MILLION+ DOWNLOADS

running on Littlstar technology

150+ APPS USE OUR TECH

and more launching this year





# Premium content across all major devices



**Web**



**Mobile**



**Television**



**Headset**



Safari



Chrome



App Store

Google Play



Daydream

SAMSUNG  
Gear VR

alcatel  
IDOL4



androidtv

SONY

SAMSUNG



Windows  
Mixed Reality



oculus

htc



# Integrated Technology

Battle tested platform technology



## 01. Player Technology

The smoothest and most accurate VR and 360 playback experience.



## 02. Encoding & Streaming

Optimized for efficient streaming to mobile 360, the web, and VR.



## 03. Support for 3-D

The Littlestar platform supports both 2D and 3D content.



## 04. Open Analytics

A wide array of data shared openly with our content distribution partners.



## 05. Heat Map Technology

Know where your viewers are looking in the content.



## 06. Spatial Audio

Littlestar supports spatial sound rendering



## Optimized Encoding & Streaming

**Our encoding, streaming, and client applications have been optimized in direct partnership with Microsoft, Intel, and Unity through working sessions, profiling, debugging, refining sessions.**



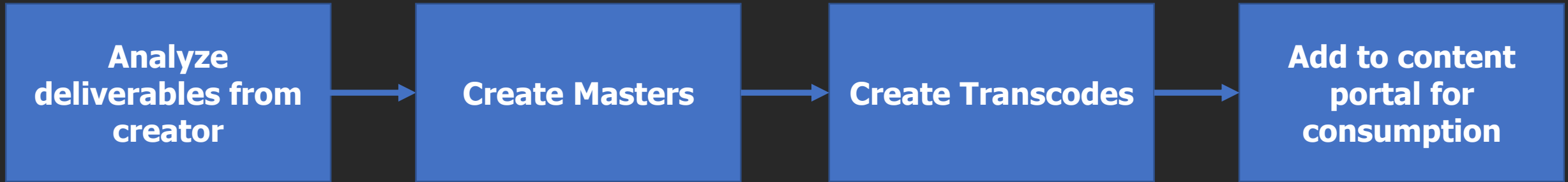


# VR Media Standards

Title	Client	Container	Codec	Stereo Mode	Resolution (AR)
<a href="#">Jean-Michelle Jarre - Oxygene 17</a>	Sony Music	MPEG-4 (ISOBMFF)	H.264 High@5.1	Over-Under	4096x2048 (2:1)
<a href="#">Pentatonix - Up on the Housetop</a>	Sony Music	QuickTime	ProRes 422HQ	Side-by-Side	4096x4096 (1:1)
<a href="#">Mr. Robot</a>	USA Networks	QuickTime	ProRes 422HQ	Monoscopic	4096x2048 (2:1)



# Content Workflow







## Mezzanine delivered through secure portal

### Ideal asset format

ProRes 422HQ

60p

8k (4k / eye)

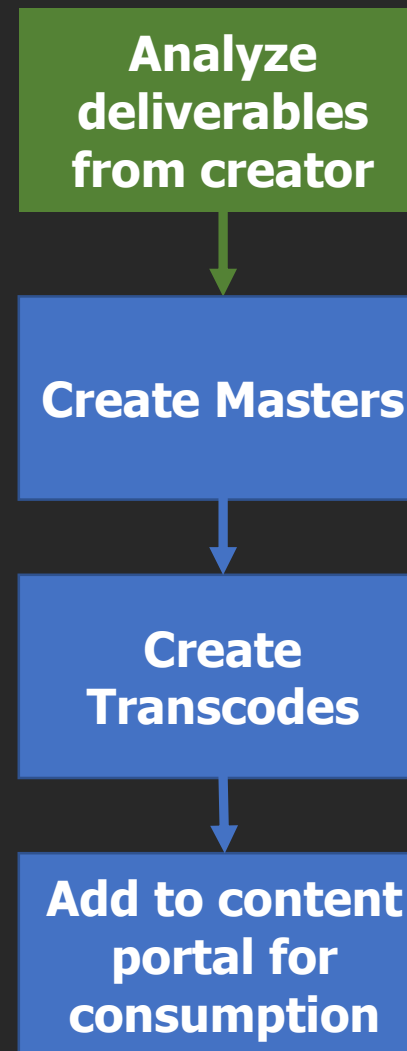
10-bit

### Raw mezzanine asset

### Probe assets for VR-specific metadata

Stereoscopy

Projection format





## Generate 10-bit and 8-bit masters

### Cellar

**Codec Encoding for LossLess Archiving and Realtime transmission**

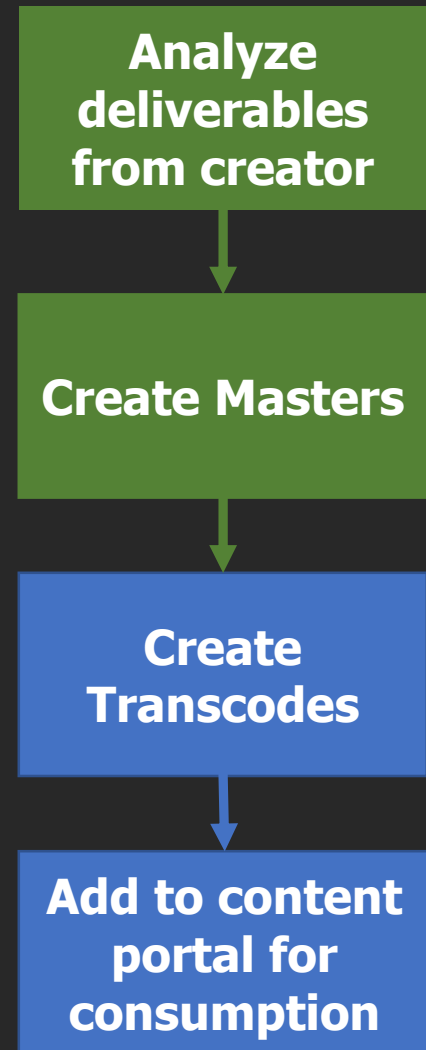
**Open, transparent, lossless**

**Matroska container**

**FFV1 video codec**

**Flac audio codec**

**Support VR metadata**





## Create transcodes from masters

**6 HLS and 6 DASH streams**

**720p – 8k resolution**

**1 – 60 Mbps**

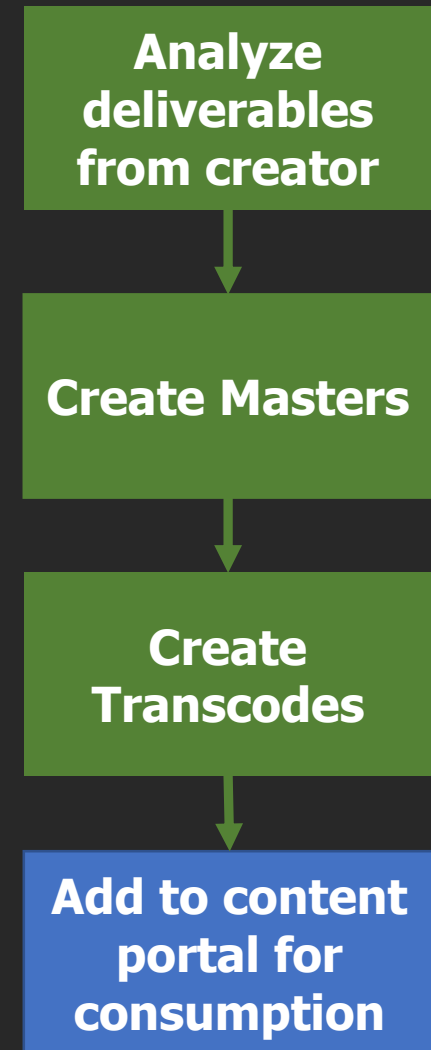
**18 Proxies (offline viewing)**

**Format**

**H.264**

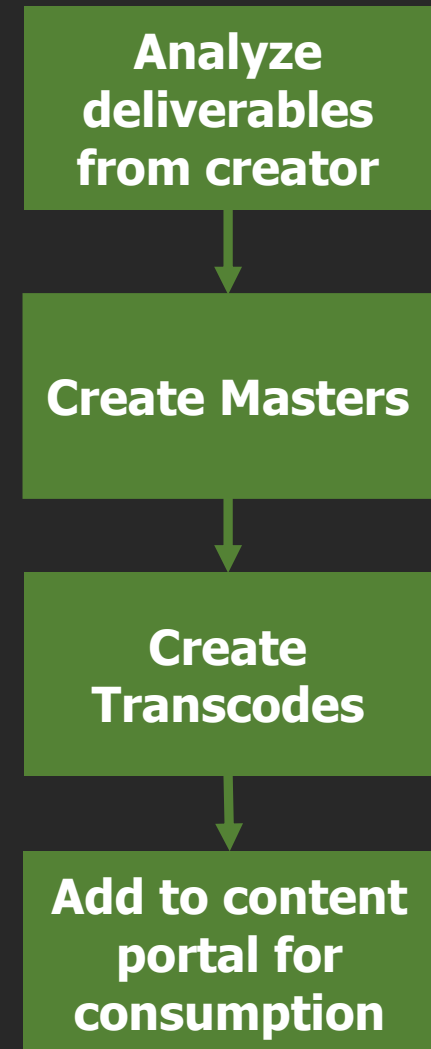
**HEVC MOV (Apple)**

**VP9 muxed into an MP4 container**





- **Upload to content portal**
- **Applications receive updates from media endpoints**
- **Streams and proxies are consumed**
  
- **Filtered by**
  - **Geography**
  - **Official or Partner App**
  - **Platform**
  
- **Analytics returned**





# Our Ideal VR Media Standards

**Cellar**

**OMAF**

**MPEG-H**



## Future

**G'AUDIO**

**AV1**



**MPEG-I**  
**MPEG-H**



# Littlstar HQ

BROADWAY & PRINCE ST.  
SOHO, NEW YORK









**thank you.**

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