



Creating Seamless Digital Environments at Scale for
Immersive Entertainment Destinations

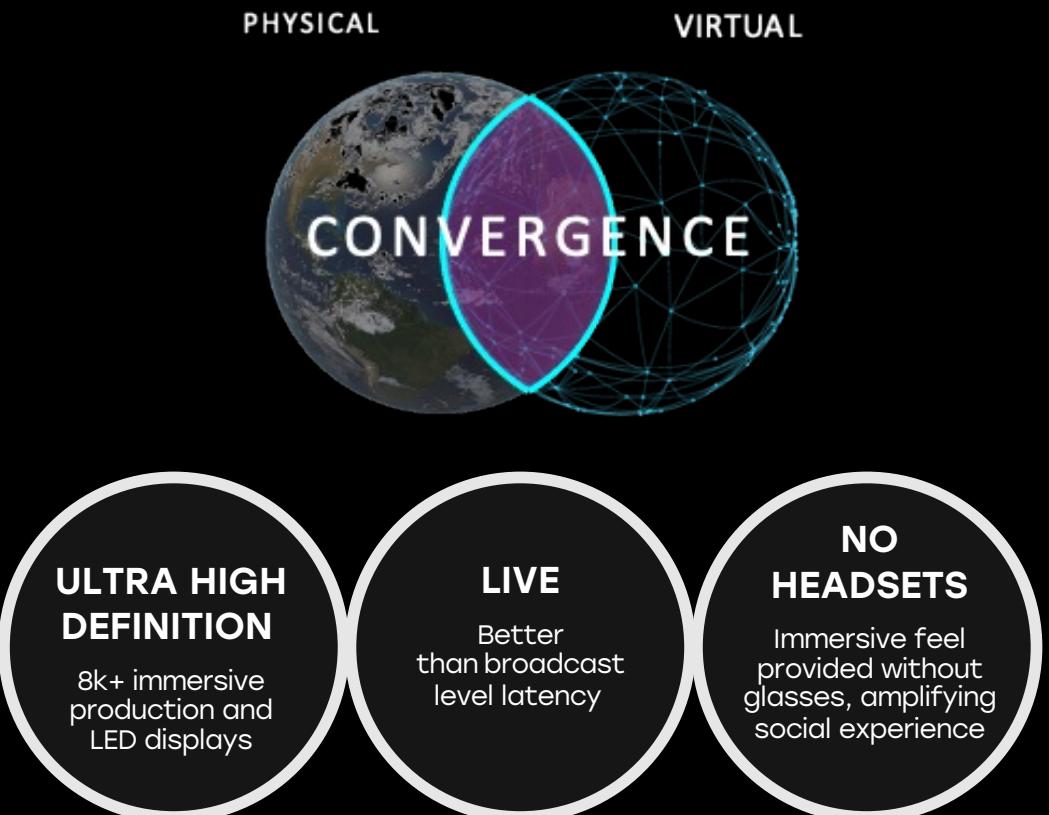


March, 2024

INTRODUCTION

COSM DELIVERS SHARED REALITY

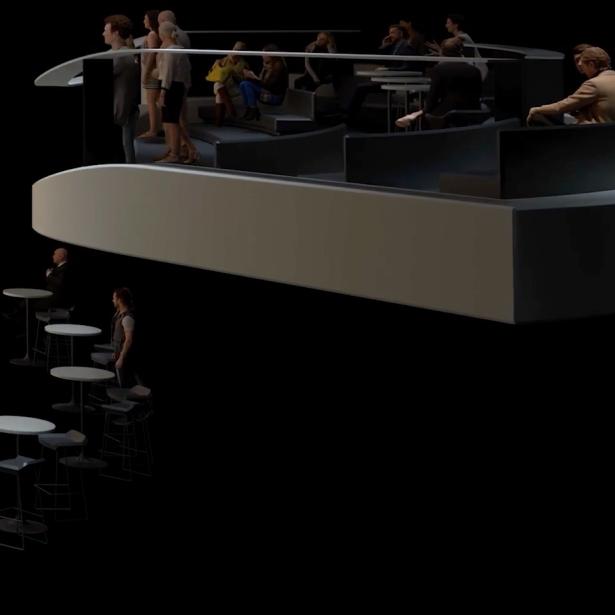
Cosm is redefining the way the world experiences content by bridging the virtual and physical worlds and bringing fans together. Cosm is rolling out category-defining experiential venues at a global scale, leveraging decades of technical and media expertise to deliver live sports & entertainment like never before.



SPORTS

Fans want to connect. They want the energy of the watch party experience, and they have proven it time, and time again across all sports, even taking the NFL Draft to another level. Cosm is the world's best watch party and provides fans the best experience possible.





COSM VENUES

LOS ANGELES, CA

Q2 2024



DALLAS, TX

Q3 2024



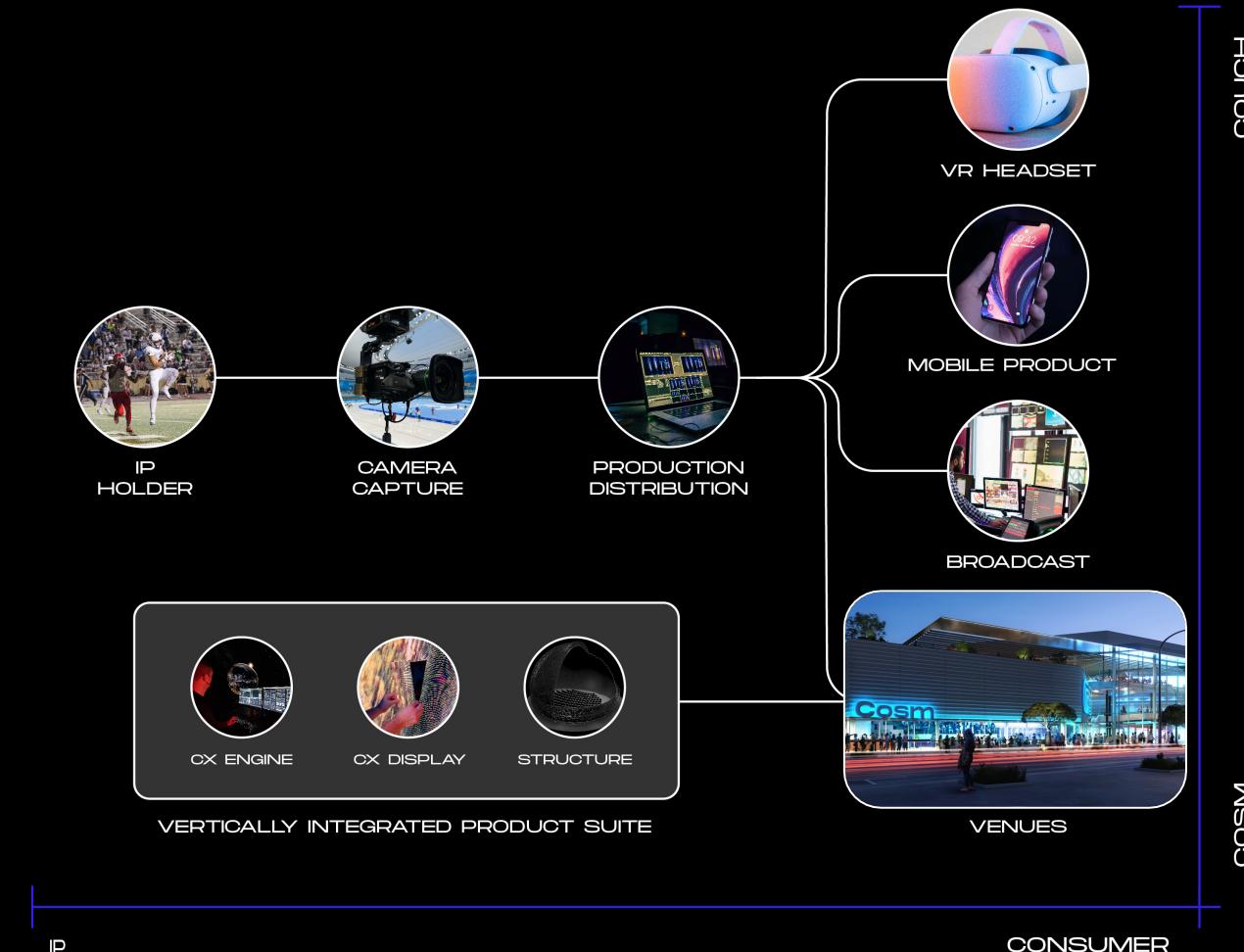
COSM IMMERSIVE

From the couch ... TO THE COSM

Cosm Immersive is driving further utility of immersive feeds far beyond the headset. Whether the feed is produced by Cosm Immersive or by a third-party, we offer an expanded map of content distribution opportunities.

Produce one immersive feed and distribute to multiple relevant platforms – white-label headset app, your existing mobile and web products, third-party platforms, broadcast, and into Cosm Venues.

Cosm powers the full technology stack to unlock and enable this approach.



SELECT
PARTNERS:

Meta



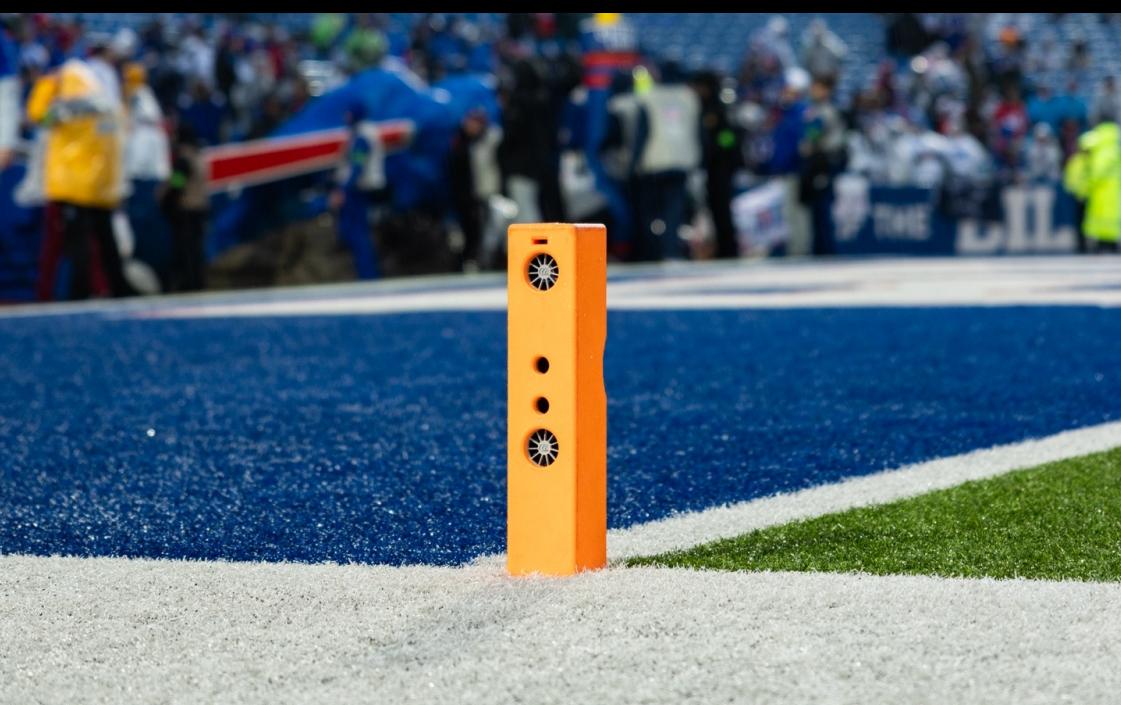
Pico



FOX

ESPN

CBS



C O S M - C 3 6 0 C a p t u r e

The Evolution of Immersive Capture Technologies

Traditional Capture Systems:

Fixed movements, limited setup positions, large footprint
Manual repositioning with operators adjusting for viewing angles

C360 Capture Systems:

Specialty cameras in strategic fixed locations surpassing traditional perspectives
Ultra-high 10.5K resolution video capture
180-degree or greater wide field of view coverage
Innovative design for full multi-dimensional capture
No need for a physical operator
GPU-Enabled dewarp for Digital PTZ handoff to linear broadcasters

CAPTURE SYSTEMS

8K and 10.5K LIVE Camera Capture

Positions: Typically 4 to 6 cameras for any live event, with immersive lenses capturing 180 degree HFOV.

RED V-Raptor: 8K live camera with fisheye lens capturing 180 degrees horizontal.

C360 Ultra : 59 Megapixel (10.5K) machine vision camera with custom image pipeline.

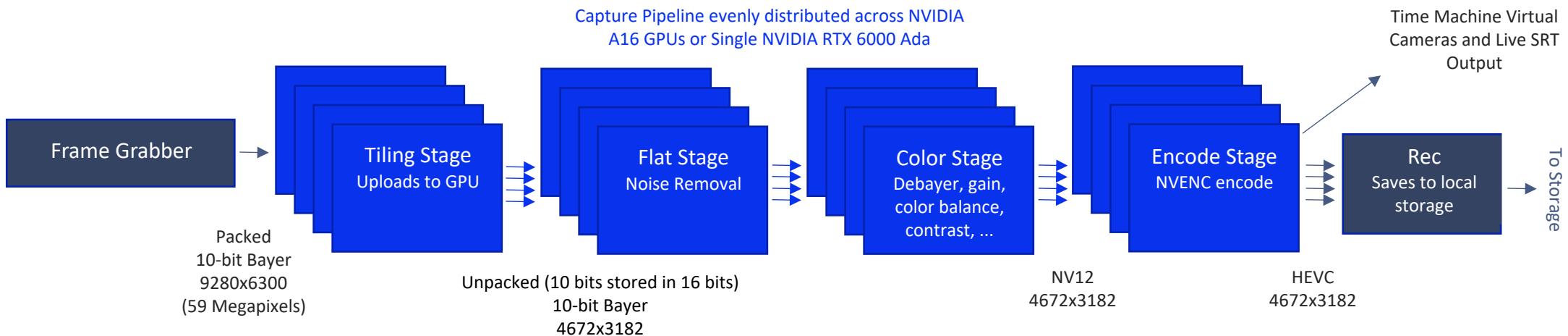
Production Rack: Rolling rack with GPU-heavy CCUs per camera with Time Machine (broadcast virtual cameras), custom graphics machines and encoders.



C360 ULTRA PIPELINE

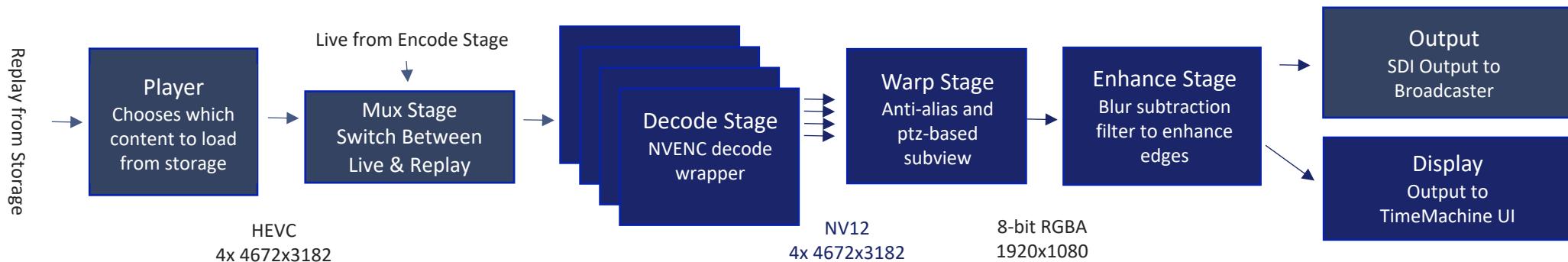
Capture Pipeline

Live capture of 59 Megapixel (~10.5K equivalent) to a tiled HEVC-based Cosm Encoded Video format



Time Machine Pipeline

Real-time re-rendering of immersive 59 Megapixel capture for Broadcaster handoff of virtual cameras (1080p)

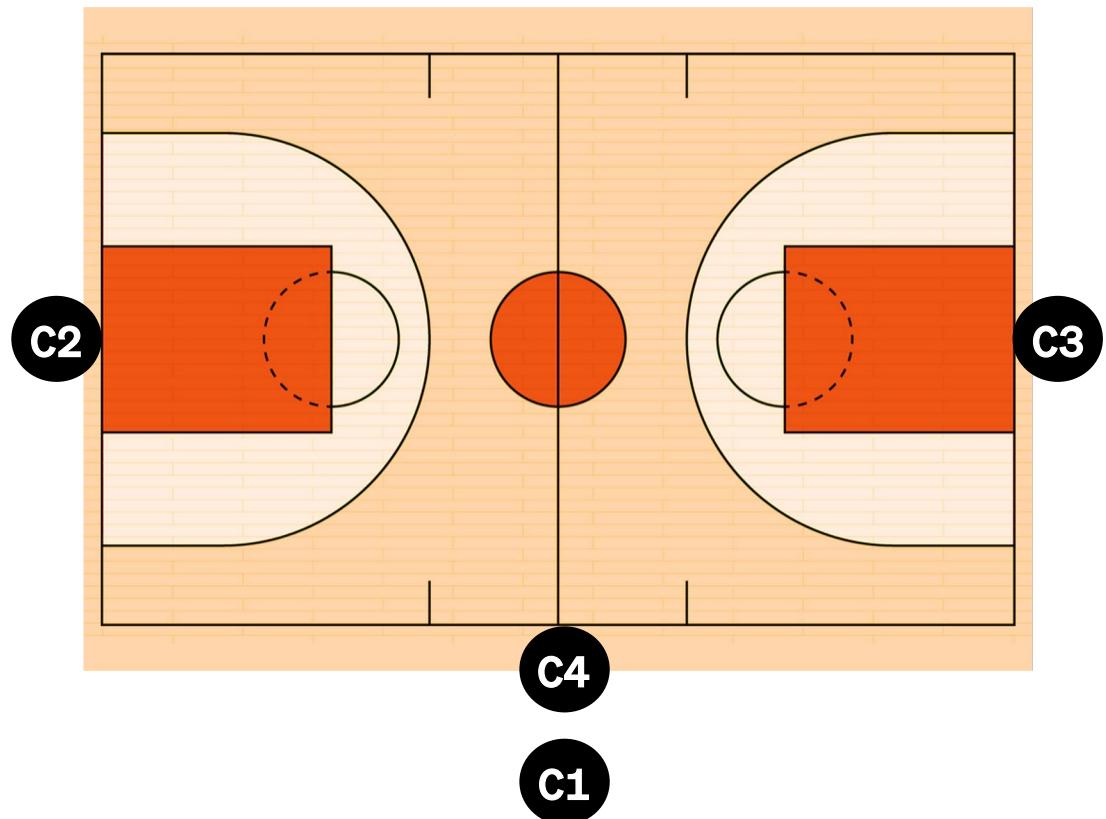


Use Case: The University of Texas at Austin



Camera	Coverage	Notes
C1	Mid-Court High Wide	Captures the entire court
C2	Left Below the Rim (BTR)	Covers inside the key and 3-point line
C3	Right Below the Rim (BTR)	Covers inside the key and 3-point line
C4	Mid-Court TV Table	Covers mid-court and players checking-in

- Live and replay controls integrated in broadcast production
- Operated by students



BROADCAST INTEGRATION

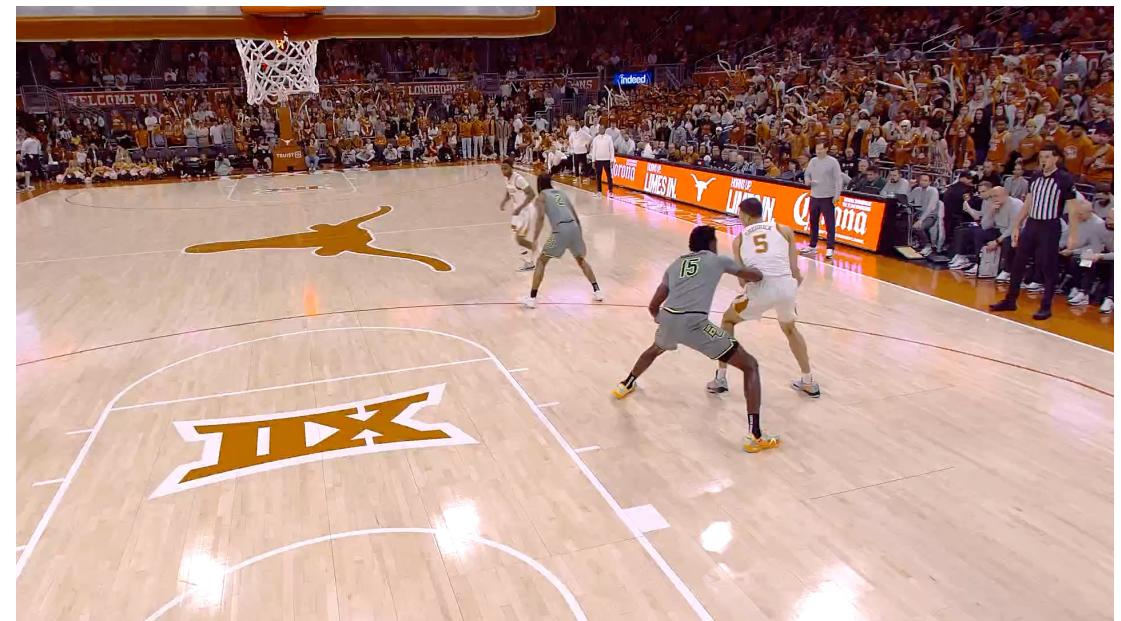
Time Machine with Digital PTZ

C360 pylons are used by major broadcasters for broadcast and replay reviews.

Ultra cameras are deployed in unique positions without operators and can be used for in-house and broadcast production - as both a live and a replay camera source.



Live and Replay Controls



Ultra Example

THE DOME

THE DECK

THE HALL

KEY STATS (AS SHOWN):

- Total capacity of up to ~2,000* with Dome capacity of ~750+
- Square Footage: 65,000
- Screen Resolution: Up to 12K+
- 27-meter Diameter LED Dome



HOLLYWOOD PARK

THE DOME



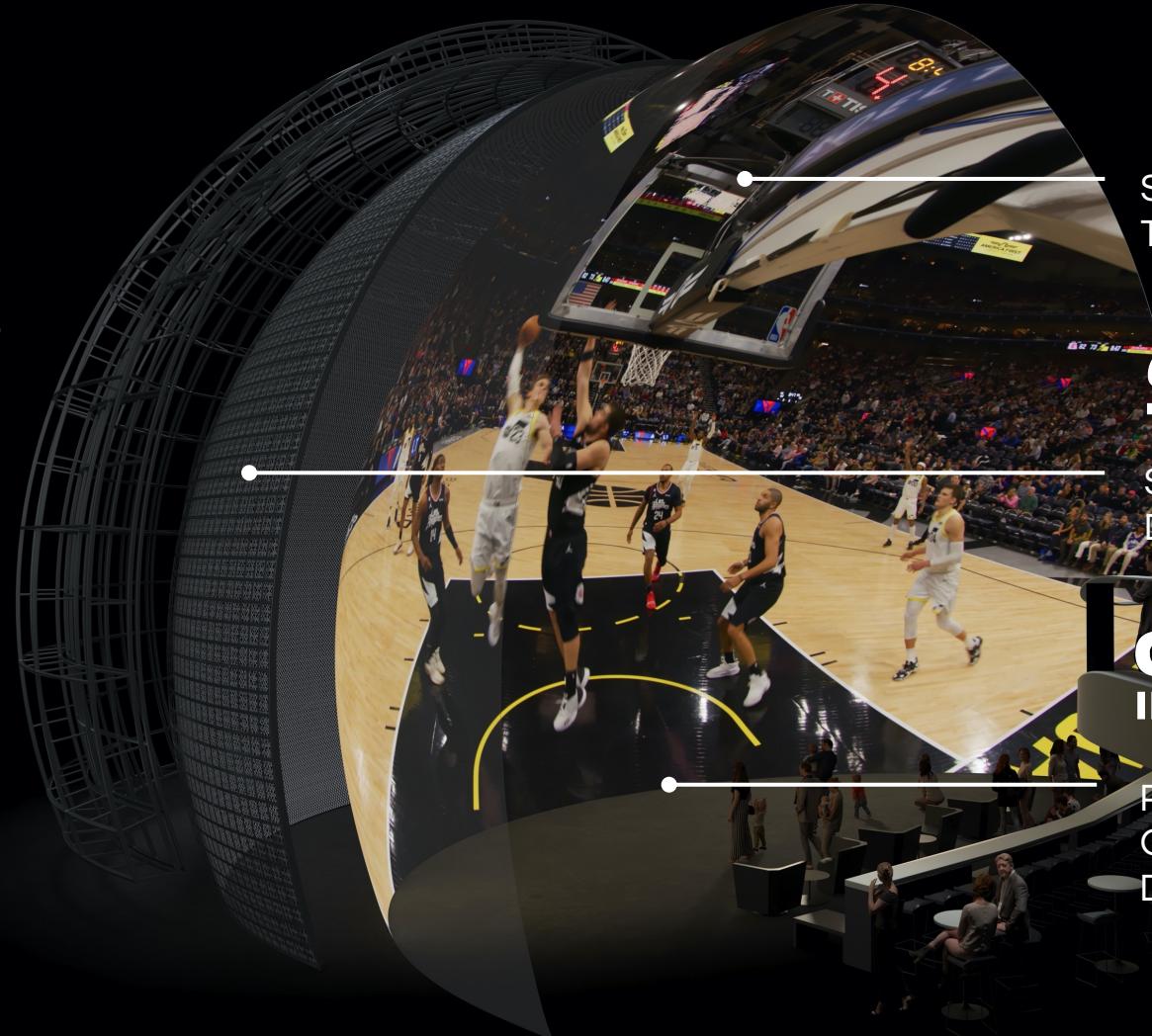
COMPLETE SOLUTION

CX SYSTEM STACK

CX Engine is the foundation of **Digistar**, the world's leading planetarium system with over 40 years of history driving real-time experiences, along with fulldome and Giant Screen Cinema video.

Each GP drives a portion of the display with **NVIDIA RTX6000 Ada** generation GPUs.

Our proprietary sync, blending and calibration provide a picture quality that far exceeds other LED displays.



E&S

SOFTWARE AND DISPLAY
TECHNOLOGY

SPITZ

STRUCTURAL ENGINEERING,
DESIGN & BUILD

Cosm
IMMERSIVE

C360
A Cosm Company

PRODUCTION, LIVE
CONTENT CAPTURE &
DISTRIBUTION

CX PRO OVERVIEW

Live production tooling that incorporates flexible immersive and rectilinear video playback with real-time graphics based on Unreal Engine.

Immersive Environments

Real-time Unreal Engine environments for background, cap, and canopy.

2D/3D Environment

Panel - Main

Panel - Canopy

Panel - Cap

Widgets

Additional Unreal Engine-powered widgets enable additional video, stats and graphics to be added into the scenes.

Immersive Video

Cosm Encoded Video playback allows for greater than 8K live streams – real-time rendered for proper perspective.

BACKGROUND
N E

Background
Layer

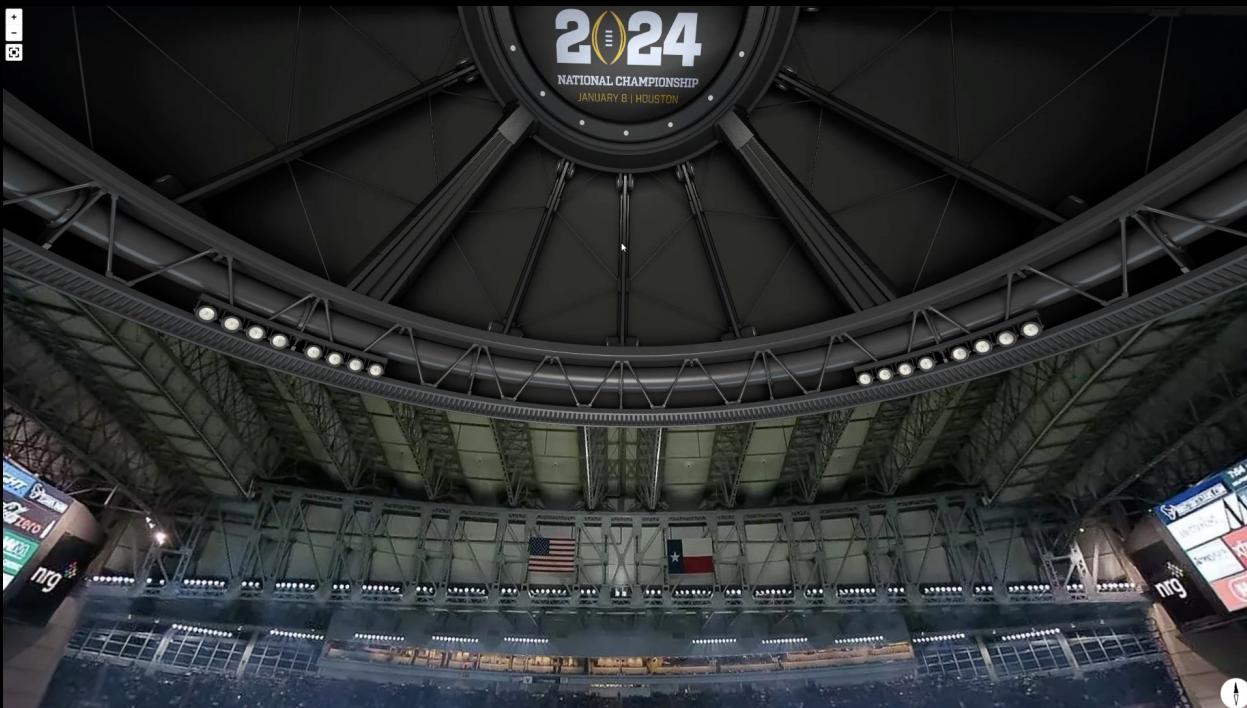
FOREGROUND
O N

Foreground Zone

Scene

DESIGNING FOR CX PRO

Environments are designed and run real-time in Unreal Engine, taking advantage of the full dome to create complementary graphics, especially in the Cap and Canopy.



Designed to match the stadium, arena or appropriate surroundings.

Animations and Sports Data integrated to create a reactive experience

C O S M

CX PRO EXPERIENCE

2024
NATIONAL CHAMPIONSHIP
JANUARY 8 | HOUSTON
ESPN

Live Scores and Stats

Team graphics and player stats in box scores

Virtual Jumbotrons

Integrated broadcast feed with announcers and immersive audio.

Immersive Environment

Real-time lighting and motion graphics surrounding the live streaming video

Immersive Video

8K, 10.5K and higher live streaming video using Cosm Encoded Media.

W O M O
11:06 1ST & 10
BALL ON 3
2nd & 10, 1st & 10
3rd & 10, 4th & 10



**COSM
IS
COMING**