

SFERiX™

**Next-generation LED screens
for shared immersive experiences**

Amusement parks, planetariums, cinemas, XR & Virtual Production

SFERiX LED

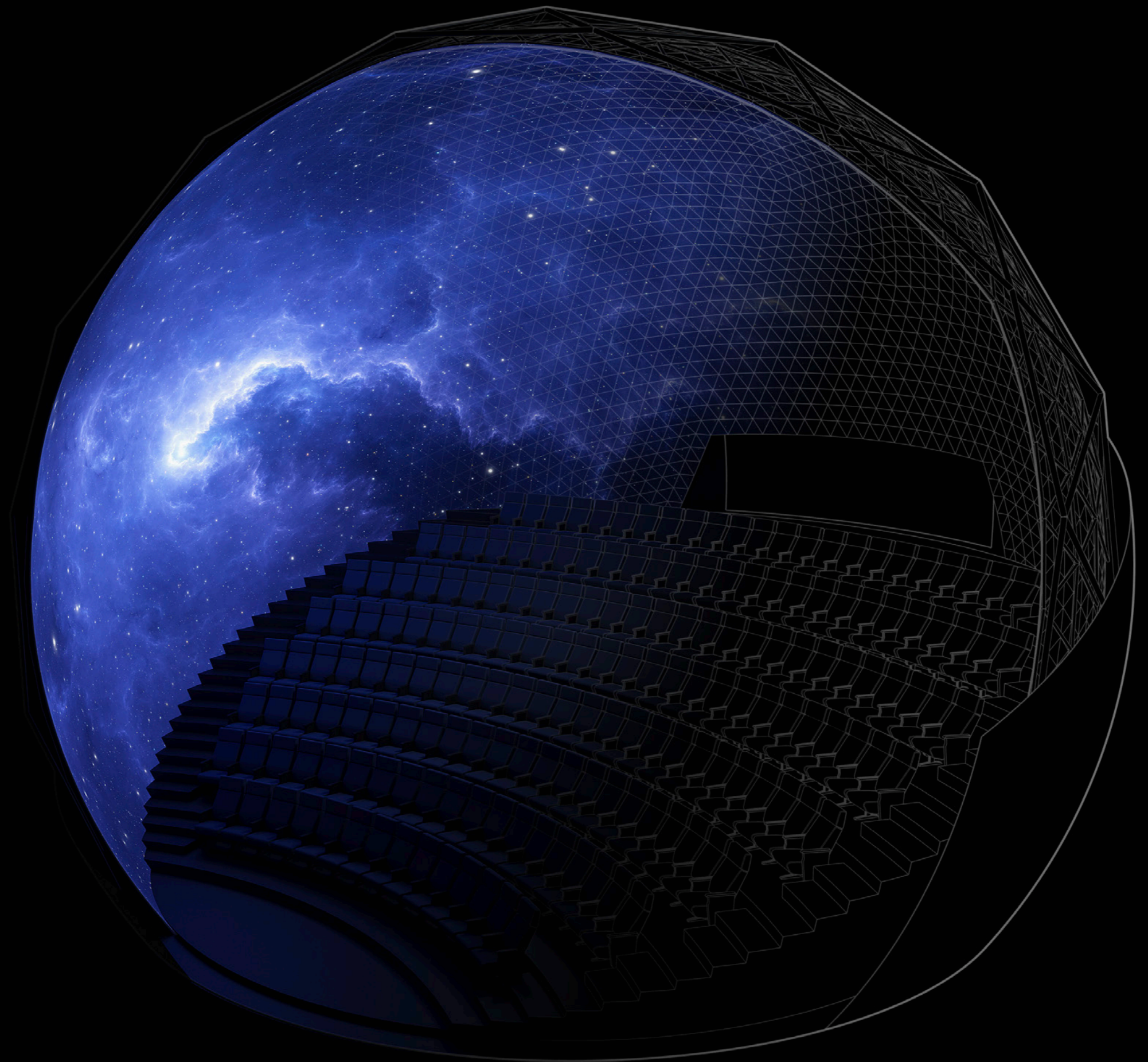
Front Pictures and EKTA are proud to introduce SFERiX, a next-generation, large-format, spherical LED display for cinemas, amusement parks, planetariums, XR, scientific visualizations, simulators, and the metaverse.

Until now, multi-projector systems were the common solution for displaying immersive imagery on dome or spherical screens. However, this approach had numerous limitations: reduced contrast and brightness, the necessity of warping and stitching the projected images, and a limited equipment lifespan. These issues resulted in image quality and viewing experiences that were far from ideal and were further compounded by the complex maintenance and operational demands.

The inherent limitations of projection technology made it difficult to achieve truly deep immersion, creating substantial barriers to its mass adoption. SFERiX addresses these issues, offering a solution that sets a new standard for immersive experiences.

The SFERiX LED display is a revolutionary product that overcomes the limitations of its predecessor, projection technology. It establishes new standards in terms of image quality, brightness, color reproduction, reliability, ease of use, and long-term durability.

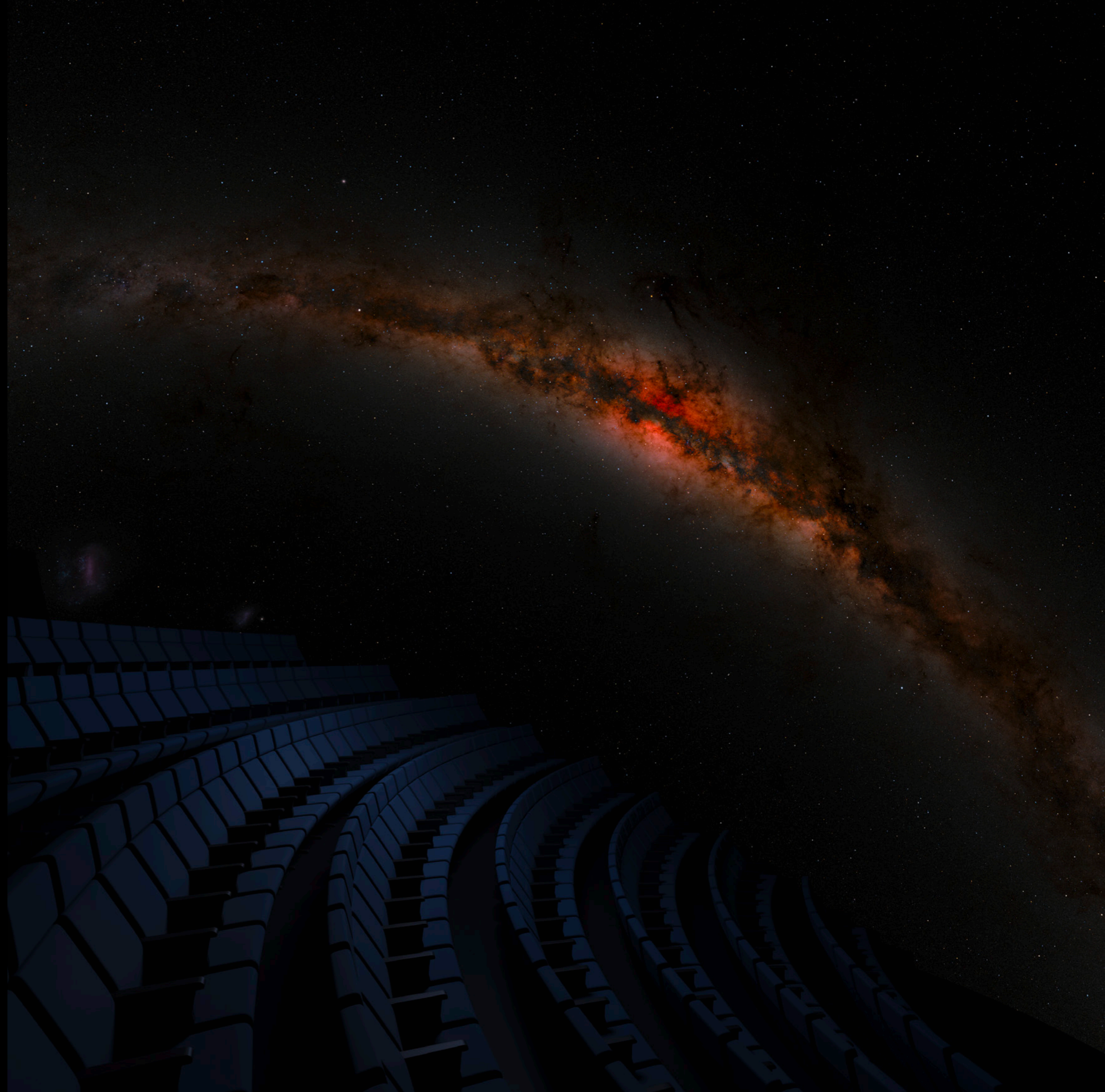
The state-of-the-art technology behind SFERiX is protected by patents pending around the world.



A NEW
ERA
OF
IMMERSION

HIGHLIGHTS

- True Black
- Spectacular Brightness
- Ultra-High Resolution
- DCI-P3 Color Gamut
- 8/10/12-bit Input Color
- Up to 4:4:4 Chroma
- HDR
- Stereoscopic 3D
- Immersive Audio
- Dedicated Media Server
- 100,000 Hrs Lifespan



FEATURES

True Black

With its high-grade electronic components, a dark screen surface, and an intelligent control system, SFERiX LED displays reproduce deep true blacks — vital for a realistic depiction of dark scenes and deep shadows, offering viewers an unparalleled sense of immersion.

Ultra-High Resolution

Finally, you can go far beyond the standard 4K full-dome resolution. SFERiX technology, with its high pixel density, paves the way for stunning 8-16K visuals.

DCI-P3 Color Gamut

SFERiX LED screens ensure the accurate reproduction of the DCI-P3 color space (the digital cinema standard), offering more vibrant and precise colors than what is usually found in projection-based domes and cinemas.

Spectacular Brightness

The peak brightness of the SFERiX LED screen is 233 fL (800 nit), which is 16 times higher than that of conventional projection-based cinemas that typically max out at 14 fL (48 nit). Leveraging top-quality electronic components and precise calibration, ensures perfect color accuracy across a full range of hues, even at peak or near-peak brightness levels.

High Uniformity

Unlike conventional projectors that rely on a single light source, each pixel in the SFERiX LED screen is represented by an individual LED. This ensures excellent uniform brightness and pixel density across the entire display surface.

8/10/12-bit Color

SFERiX supports 8/10/12-bit input color depths. It also supports up to 4:4:4 chroma subsampling. All this offers outstanding color accuracy, assuring smooth, realistic gradients for a superior visual experience.

HDR Support

With its outstanding contrast, brightness, and 10/12-bit input color depth support, the SFERiX LED screen is ideal for displaying HDR content. This allows for the accurate representation of bright highlights and preserves details in the darkest tones, resulting in more realistic and visually striking images.

High FPS

The ability to display visual content at up to 240 frames per second ensures impeccable motion smoothness and clarity, even on large-format SFERiX LED dome displays.

Flexible Size & Shape

Thanks to Unified LED Surface Topology, SFERiX LED displays are available in a wide range of sizes and shapes to fit nearly any location. This innovative design also allows for the creation of diverse display shapes, including sphere segments, truncated or standard domes, and even complete spherical displays.

Stereoscopic 3D

Stereo 3D support, combined with high brightness, delivers unprecedented image depth that takes immersion to an entirely new level, making it so real that it seems like there's no physical screen present.

Immersive Audio

The acoustic transparency of the SFERiX LED screen enables the installation of multi-channel spatial sound systems behind the screen. This feature ensures that sound can pass through the screen, resulting in a fully immersive experience.

100,000 Hrs Lifespan

Built for durability, the individual LEDs of SFERiX LED screens have lifespans exceeding 100,000 hours, resulting in reduced maintenance and operating costs. Unlike conventional projectors, SFERiX LED displays do not require replacement parts, such as lamps.

MEDIA SERVER / SOFTWARE

SFERiX is powered by the Screenberry media server – a reliable, flexible, and versatile system designed for video playback, real-time graphics, control, and automation. This state-of-the-art solution unlocks truly limitless possibilities.



Astronomy Visualization

SFERiX can be optionally supplied with SpaceTime360 – the next generation of astronomy visualization and simulation software. It offers a scientifically accurate and visually breathtaking depiction of the universe. It is designed with a spherical LED display in mind, depicting pixel-sharp stars as well as celestial objects in HDR.

Presentations

Presenter360 is a slide presentation program tailored for fulldome and spherical screens. With it, crafting an immersive presentation or slideshow becomes as straightforward as using traditional slide presentation software. Users can swiftly design presentations using the Presenter360 Editor, upload them to the server, and instantly view the result on the immersive screen.

Music Visualization

Meduza360 is an essential component for any performance or concert that takes place in a dome. It's a generative, music-responsive, real-time music visualizer for spherical and dome screens, renowned for its user-friendly controls and immersive interactive 3D visuals.

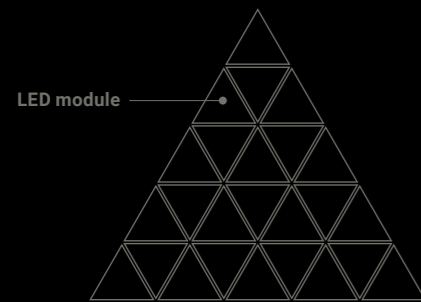
Media Content

Equipped with a secure DRM system, the SFERiX playback engine provides access to an online store featuring licensed fulldome content from premier fulldome producers. Its adaptable licensing system, which includes "pay per play" and "time interval" options, empowers dome operators to diversify their offerings and attract a wider audience.

TECHNOLOGY

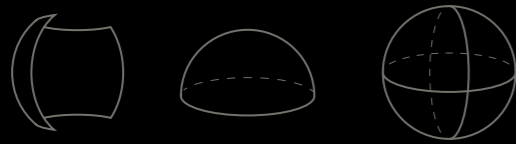
Display Surface

The screen is assembled from unified triangular LED modules. This enables the creation of a display surface that closely approximates a sphere.



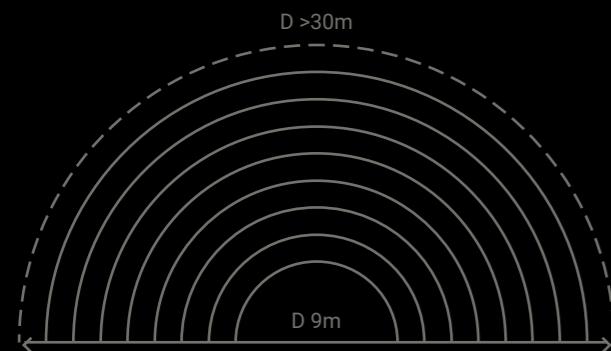
Display Shape

Triangular LED modules provide the flexibility to construct a display surface in various spherical shapes: partial dome, full dome, full sphere, or any custom configuration—all using the same unified modules.



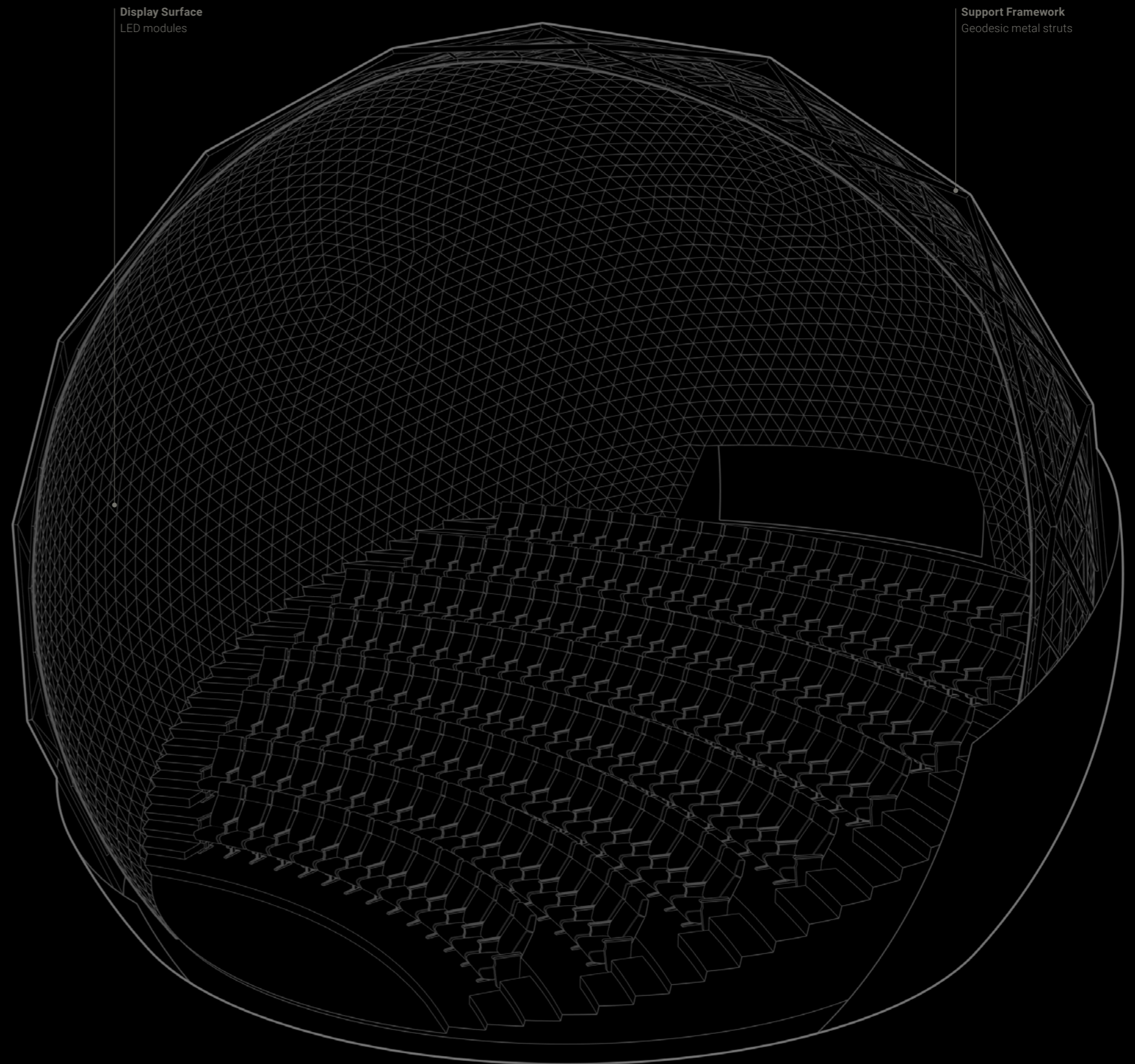
Size Range

There is virtually no limit to the diameter of a SFERIX LED dome display, nor to its resolution, which is achieved by increasing the number of standard LED modules.



Support Framework

The display surface is mounted on a geodesic support structure, meticulously engineered, and manufactured with unprecedented precision, ensuring high accuracy in the positioning of each LED module.



APPLICATIONS

Amusement Parks

Take visitors on a journey they have never experienced before! SFERiX, integrated with moving platforms, robotic arms, and 3D glasses, can transport your visitors to any virtual world, offering an unprecedented level of detail and immersion.

Immersive PLF Cinemas

Imagine a screen with no boundaries! SFERiX redefines the cinema experience, introducing the new Immersive Premium Large Format (IPLF). Featuring a large spherical LED screen with exceptional contrast and color fidelity, along with immersive audio, it transforms the cinema experience and sets a new standard for future theaters.

Planetariums

Experience pin-sharp stars against a true black sky. The SFERiX immersive LED screen is designed to visualize both extremely bright and dim stars with unparalleled realism, brightness, and color accuracy. This technology sets a new standard for astronomy visualization, opening up possibilities that were previously unimaginable.

City Attractions

Create an iconic destination that will attract visitors from around the globe. With SFERiX, you can offer an immersive 360-degree visual experience that's perfect for families and all age groups, providing an unforgettable mix of entertainment, education, and cultural engagement.

XR & Virtual Production

SFERiX sets a new benchmark for XR and virtual production. Its unique spherical design offers superior color & brightness uniformity compared to traditional box- and cylinder-shaped LED volumes. Combined with its accurate color reproduction and high frame rate capabilities, SFERiX offers filmmakers unparalleled creative freedom.



APPLICATIONS

Sports & Esports

Experience live sports like never before! The SFERiX immense spherical LED screen teleports the audience right into the heart of the action, bringing every detail to life with stunning clarity and scale. Whether it's a championship match or an esports tournament, feel the adrenaline as the breathtaking visuals immerse you in the game, making you feel like you're part of the action.

Simulators

Step into a new era of realism! With SFERiX, all the advantages of LED technology are now available for the simulators industry. Experience unparalleled immersion with our advanced 3D stereo capabilities, exceptional color fidelity, and high frame rates, ensuring precise and accurate visualization. Pair SFERiX with the cockpit of your desired vehicle, from a car to a spacecraft, to achieve the most realistic experience possible.

Scientific Visualization

When accuracy is paramount, SFERiX stands out as the ultimate solution! With its superior color accuracy and brightness, it ensures precise visualization even in well-lit environments. Additionally, SFERiX's immersive LED screen technology enhances collaboration by allowing multiple researchers to view and interact with data simultaneously.

Custom Applications

Challenge us! Our team is ready to bring your visions and ideas to life. Whether it's crafting a custom screen design, implementing unique features, integrating SFERiX LED screens with your existing technology, or exploring novel applications, we're here to assist. Let us help you create extraordinary experiences tailored to your specific needs.



SERVICE

SFERiX provides a full-service solution. Our collaboration begins with a consultation to determine the best SFERiX LED display for your venue or to advise on transitioning from your existing setup, such as a projection-based planetarium. Our commitment to quality is underscored by our in-house manufacturing and rigorous pre-delivery testing of the SFERiX LED display. We oversee and provide full support throughout the delivery process. Once delivered to your venue, the SFERiX LED display undergoes installation, fine-tuning, and a thorough inspection by our experts to guarantee optimal performance. Our commitment doesn't end at the initial launch; we stand by you throughout the product's entire lifecycle, offering:

- Maintenance
- Software Updates
- Training
- Support

Installation

Typical installation scenarios include:

- Setting up an SFERiX LED display in a new venue.
- Integrating an SFERiX LED display into an existing venue.
- Upgrading an existing projection-based dome or spherical screen to an SFERiX LED display.

Spectrum of Supplies

- LED Display
- Structural Support Framework
- Seating Solutions
- Sound System
- Dedicated Media Server
- Software
- Media Content



PRODUCT INFORMATION

Diameter*	9 m (30 ft)		12 m (39 ft)		15 m (49 ft)		18 m (59 ft)		21 m (69 ft)		24 m (79 ft)		27 m (89 ft)		30 m (98 ft)	
Area (180° Apt.)	127 m ² (1369 ft ²)		226 m ² (2434 ft ²)		353 m ² (3802 ft ²)		509 m ² (5475 ft ²)		692 m ² (7453 ft ²)		904 m ² (9734 ft ²)		1145 m ² (12320 ft ²)		1413 m ² (15209 ft ²)	
Pixel Pitch	3.8 mm	2.81 mm	3.8 mm	2.81 mm	3.8 mm	2.81 mm	3.8 mm	2.81 mm	3.8 mm	2.81 mm	3.8 mm	2.81 mm	3.8 mm	2.81 mm	3.8 mm	2.81 mm
Resolution	3,7 K	5 K	5 K	6,7 K	6,2 K	8,4 K	7,4 K	10,1 K	8,7 K	11,7 K	9,9 K	13,4 K	11,2 K	15,1 K	12,4 K	16,8 K
Peak Brightness	800 nit		800 nit		800 nit		800 nit		800 nit		800 nit		800 nit		800 nit	
Input Color Bit Depth	8/10/12-bit		8/10/12-bit		8/10/12-bit		8/10/12-bit		8/10/12-bit		8/10/12-bit		8/10/12-bit		8/10/12-bit	
Chroma	up to 4:4:4		up to 4:4:4		up to 4:4:4		up to 4:4:4		up to 4:4:4		up to 4:4:4		up to 4:4:4		up to 4:4:4	
Color Space	Rec.709: 100%		Rec.709: 100%		Rec.709: 100%		Rec.709: 100%		Rec.709: 100%		Rec.709: 100%		Rec.709: 100%		Rec.709: 100%	
	DCI-P3: 97,5%		DCI-P3: 97,5%		DCI-P3: 97,5%		DCI-P3: 97,5%		DCI-P3: 97,5%		DCI-P3: 97,5%		DCI-P3: 97,5%		DCI-P3: 97,5%	
	BT.2020: 86,5%		BT.2020: 86,5%		BT.2020: 86,5%		BT.2020: 86,5%		BT.2020: 86,5%		BT.2020: 86,5%		BT.2020: 86,5%		BT.2020: 86,5%	
HDR	+		+		+		+		+		+		+		+	
FPS	up to 240 Hz		up to 240 Hz		up to 240 Hz		up to 240 Hz		up to 240 Hz		up to 240 Hz		up to 240 Hz		up to 240 Hz	
3D	+		+		+		+		+		+		+		+	
Acoustic Transparency	+		+		+		+		+		+		+		+	
LED Lifespan	100,000 h		100,000 h		100,000 h		100,000 h		100,000 h		100,000 h		100,000 h		100,000 h	

All features, functionality, and other product specifications are subject to change without notice or obligation.

* Other diameters and pixel pitches can be produced upon request.

WHO WE ARE

Front Pictures

Founded in 2003 in Kyiv, Ukraine, Front Pictures has been unleashing the creative potential of technology and digital media. Beyond crafting innovative multimedia showcases, the company stands as a global integrator of digital media installations, a premier manufacturer of fulldome systems, and a developer of professional media server software. With a dedicated team of over 40 experts, Front Pictures maintains a leading position in the field of digital media installations and fulldome systems, constantly pushing the boundaries of creative and technological solutions in the industry.

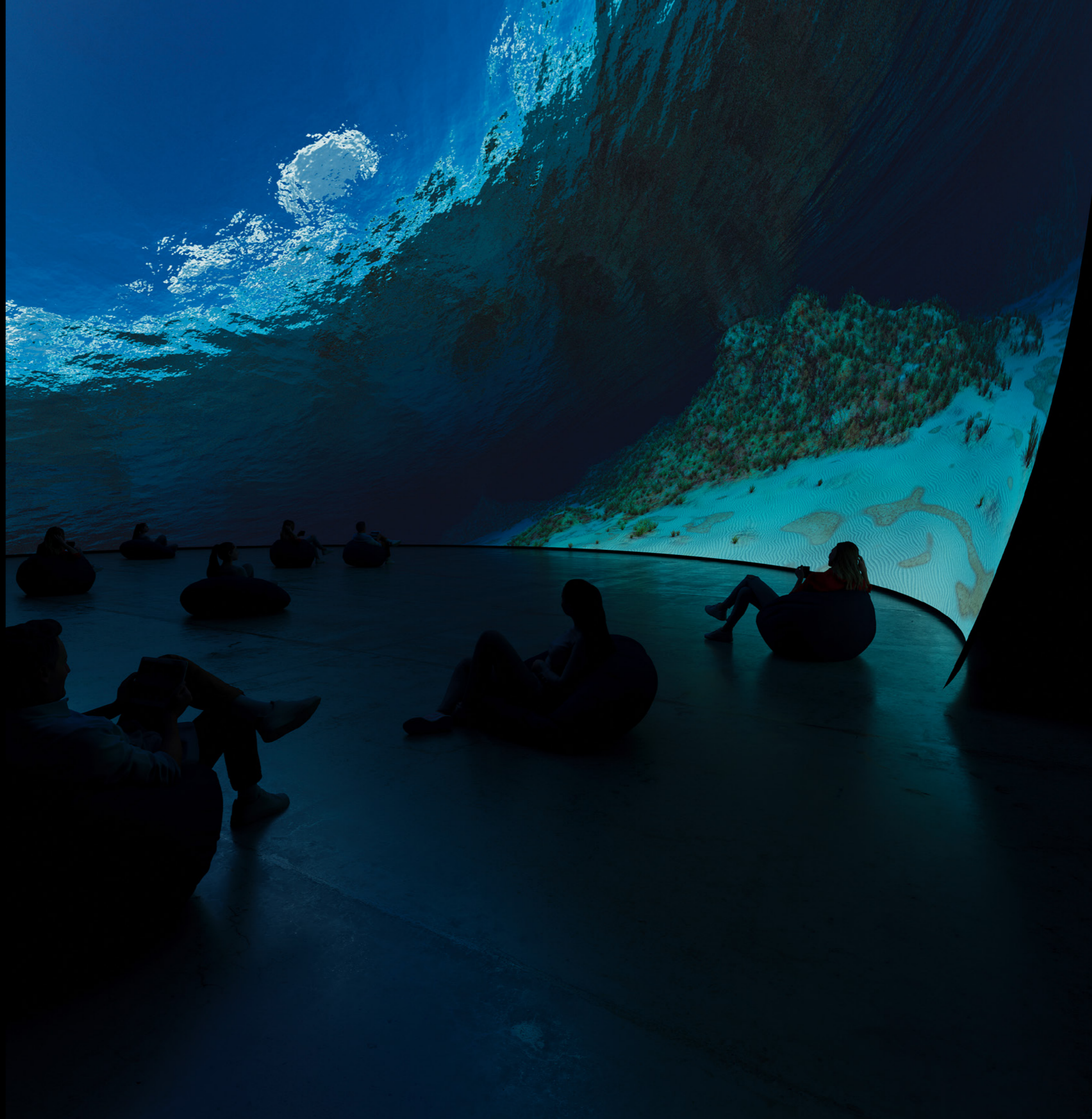
EKTA

Established in 1992 and located in Kyiv, Ukraine, EKTA has risen to become a renowned European manufacturer and exporter of high-end LED solutions, with a presence in over 30 countries across Europe and Asia. With a team of more than 100 specialists dedicated to visual technologies, EKTA continues to redefine the capabilities of LED displays and their control systems. To date, the company has successfully executed hundreds of installation projects serving the business, entertainment, and industrial sectors.

CONTACTS

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