

Christie and SDVoE bring culture to life at Korean museum

In an age where technology and personalization of cultural consumption have experienced rapid growth, the National Museum of Korea (NMK) – the largest museum in Korea with over 220,000 objects in its collection – has taken steps to evolve from a space for exhibiting valuable artifacts to becoming a source of cultural inspiration for the future.

CHALLENGE

In 2019, NMK kicked off its 'Smart Museum' initiative, which included an Immersive Digital Gallery comprising four attractions that leverage a range of leading-edge 3D visual technology to emulate a physical world through digital means.

"Through the creation of this Immersive Digital Gallery, we hope to move visitors beyond technology to rediscover the values of various exhibits and share them with others," said Eun-jeong Chang, curator, NMK. "This gallery is positioned as a new space that enables people to seek knowledge, fun, and relaxation whilst serving as a bridge that leads to our rich cultural heritage spanning thousands of years."

SOLUTION

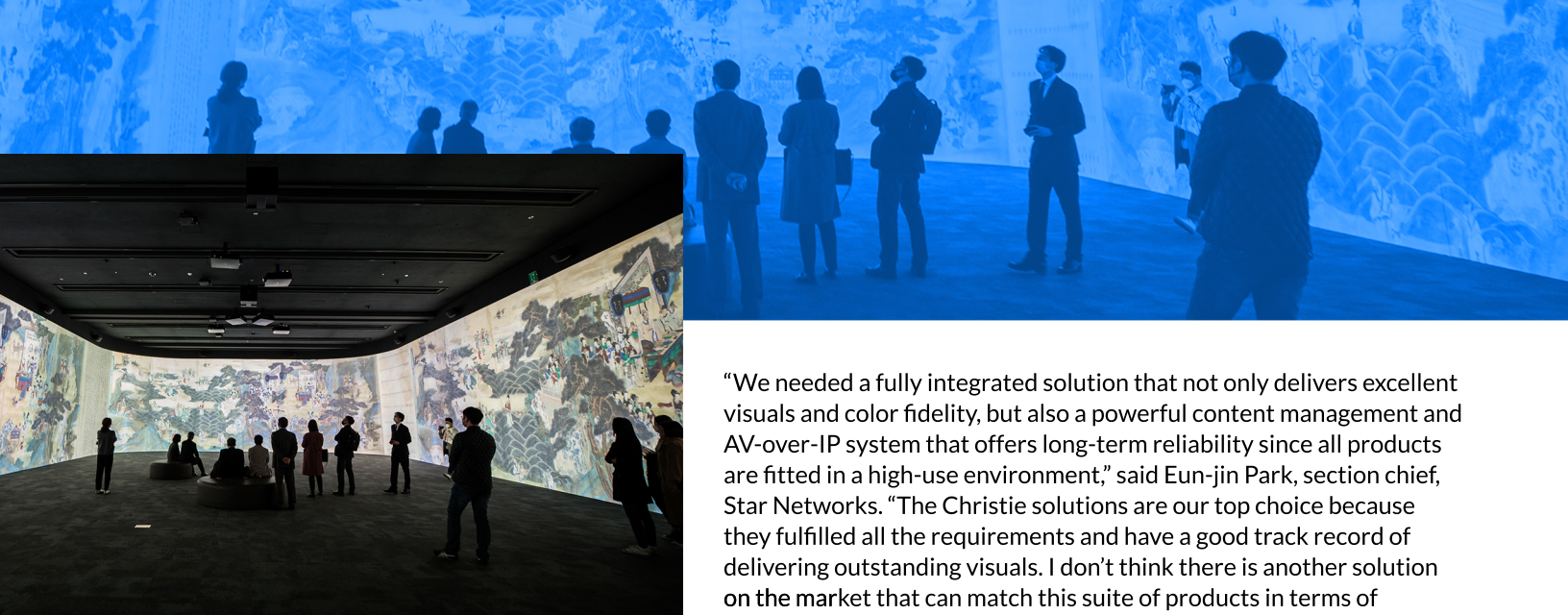
Christie's trusted partner Star Networks, which delivered several highly-acclaimed large scale projects in Korea including the world's first robot theme park – Gyeongnam Masan Robot Land – was appointed by NMK to set up the projection, media servers, transmission and surround audio components in the largest space of the Immersive Digital Gallery, known as Gallery 1. It features mesmerizing, 8K resolution content displayed on an ultra-wide panorama screen measuring 60 meters in length and 5 meters in height.

After conducting a detailed survey and evaluating various factors including color fidelity, image detail and reliability, Star Networks decided to deploy a suite of Christie's projection, image processing and SDVoE solutions in Gallery 1. This included eight Christie D20WU-HS 1DLP® Laser projectors, two Christie Pandoras Box Quad Players, a Pandoras Box Player, a Pandoras Box Manager and Widget Designer, as well as eight sets of Christie Terra Transmitters and Receivers as part of the SDVoE solution.

*Photos courtesy of the
National Museum of Korea*



SDVoE[®]
ALLIANCE



“We needed a fully integrated solution that not only delivers excellent visuals and color fidelity, but also a powerful content management and AV-over-IP system that offers long-term reliability since all products are fitted in a high-use environment,” said Eun-jin Park, section chief, Star Networks. “The Christie solutions are our top choice because they fulfilled all the requirements and have a good track record of delivering outstanding visuals. I don’t think there is another solution on the market that can match this suite of products in terms of performance, level of integration and dependability.”

Visitors can enjoy bright and beautiful panoramic projections in this space, such as those depicting a Joseon king’s procession in ‘Royal Procession with the People’, or admire breathtaking sceneries depicted in Jeong Seon’s masterpiece ‘Climbing Mt. Geumgang’. Other engaging digital projections include ‘Journey of the Soul: Walking Through the Eternal Cycle of Birth, Death, and Rebirth’ that allow visitors to experience the Buddhist view of the afterlife through various paintings, and ‘Banquet of Taoist Immortals’ which impressively replicates the mystical world of eight immortals in ancient folklore.

In addition, MappScreen used the Christie Terra AV-over-IP solution to extend audio, video, as well as embedded time code, (thanks to the built-in synchronization and metadata support) using fibre cable between FOH and the VJ’s desk on stage. “We are more than happy with Terra. If Terra didn’t exist, we would have had to use conventional fibre transmitters and receivers, with an equal amount of RJ45 cable to extend the VJs time code,” Cruz Rubio concluded.

Meticulous production of contents based on valuable paintings

Throughout the installation process, Star Networks worked closely with celebrated VFX and CG animation studio MOFAC, appointed as the prime systems integrator and content creator of this project, to ensure that the hardware and visual content are perfectly integrated and synchronized to offer visitors the definitive experience in Gallery 1.

Over a period of eight months, MOFAC meticulously produced a series of specially curated content in collaboration with NMK and the Korea Creative Content Agency. These include digital re-creations of some of Korea’s most famous paintings such as ‘Climbing Mt. Geumgang’, and ‘Royal Procession with the People’.

Yoon-soo Go, project manager, MOFAC, explained that due to the characteristics of the content created by reconstructing traditional Korean paintings, the original copies had to be scanned in high resolution, followed by making the objects that appear in these artworks in 3D. After that, texture mapping was performed with the original image for 3D modelling. The results are highly detailed images with a jaw-dropping resolution of 14K.

“In the final step, the content is displayed using cutting-edge visual technology so that even the finest details can stand out. I’m pleased to note that the Christie HS Series projectors have accomplished this brilliantly. Also, Christie Pandoras Box and Terra solutions delivered high resolution images and stunning colors with perfect synchronization. This is a fine example of the capabilities of a fully integrated, end-to-end, high performance solution,” Go added.

Historical works of art ‘come alive’

The Immersive Digital Gallery was officially opened to the public in late May following the reopening of NMK after a three-month closure due to the COVID-19 pandemic.

NMK’s Chang recounted that audiences who stepped into Gallery 1 are enthralled by the vivid and highly immersive content. “We have received lots of positive feedback from visitors, and many of them are in awe of the quality of the visuals and how historical works of art can ‘come alive’ so convincingly in a real physical space. It’s gratifying that the integrated technologies implemented in this space have provided an enchanting experience that transports visitors across time and space,” she noted.



“Through the successful completion of this project, we are proud that Christie’s laser projection, image processing and SDVoE solutions have been established as the benchmark for challenging immersive content in many museums in the future,” said Park, who added that the technical experience gained by Star Networks team will enable them to provide progressive solutions to more customers in the future.

Commenting on the use of highly engaging content for museum exhibits, MOFAC’s Go enthused that the advancement of technologies has created new possibilities for the promotion of cultural heritage among younger people and tech-savvy individuals. He said, “It is an exciting and fulfilling task for content creators to bring these cultural artifacts to life, and through this process enable everyone to admire and enjoy our cultural heritage in greater depth.”

Christie Terra enables the transport, switching, processing and control of audiovisual content, including 4K at 60Hz video formats, over 10G Ethernet networks. Built on standardized SDVoE technology, Christie Terra provides unprecedented performance capabilities including the delivery of uncompressed, zero-frame latency, artifact-free video over readily available and affordable 10G components. Based on off-the-shelf 10G Ethernet components, the Terra solution allows for the design of simple, secured, flexible and highly scalable system architectures that offer the best performance and user experience over current approaches at a drastically lower total cost of ownership.

BENEFITS OF SDVOE TECHNOLOGY

SDVoE reaches beyond existing standards to provide benefits no other technology can claim:

- A complete ecosystem – SDVoE Alliance members are manufacturers with expertise in signal distribution, display manufacture, IT infrastructure, chip design and AV software. The integrator has dozens of partners to align with and products to choose from.
- A flexible yet simple software platform – the SDVoE API allows rapid development of highly specialized software, custom-tailored to the needs of a vast array of end users.
- A full OSI stack solution – only SDVoE offers the simplicity of a complete top to bottom solution, fully encompassing infrastructure, transport, processing, and a simple control layer.

ABOUT CHRISTIE

Christie Digital Systems USA, Inc. is a global visual and audio technologies company and a wholly-owned subsidiary of Ushio Inc., Japan (JP:6925). Consistently setting the standards by being the first to market some of the world’s most advanced projectors, complete system displays, and cinema audio solutions; Christie is recognized as one of the most innovative visual technology companies in the world. From retail displays to Hollywood, mission critical command centers to classrooms and training simulators, Christie display solutions and projectors capture the attention of audiences around the world with dynamic and stunning images, accompanied by awe-inspiring sound.

For more information about Christie’s Terra line of SDVoE solutions, visit www.christiedigital.com.



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