

June 4, 2020

USHIO LIGHTING, INC.

Miraikan - The National Museum of Emerging Science and Innovation Has Adopted Christie's Projectors

The Christie 4K RGB pure laser projectors will bring immersive and dynamic visuals to large-dome theater

USHIO LIGHTING, INC. (Chuo-ku, Tokyo / President & COO: Katsumi Nakamori, hereinafter "Ushio Lighting"), a subsidiary of USHIO ENTERTAINMENT HOLDINGS, INC. (Chuo-ku, Tokyo / President & CEO: Shiro Ushio), is pleased to announce that Miraikan has renewed its equipment and system, adopting the Christie 4K RGB pure laser projector for the museum's "Dome Theater GAIA" (Koto-ku, Tokyo / Chief Executive Director: Mamoru Mohri, Ph. D., Operation: Japan Science and Technology Agency), which reopened on June 3.

In "Dome Theater GAIA," visitors experience the dynamic charm of the universe through the screening of full-sky, super-high-precision 3D images and planetarium programs.

The 3D images, which endeavor to achieve a realism that evokes a sense of atmosphere and presence, leaves visitors breathless with its stunning quality that makes it seem as if the imagery is right in front of your eyes. And in the planetarium programs, about 10 million stars are projected to create a realistic and finely detailed starry sky that makes you feel as if you're floating in space.

When the projectors and systems were renewed, Konica Minolta Planetarium Co., Ltd. (Toshima-ku, Tokyo / President: Hiroyasu Furuse) delivered and constructed a complete system, and Ushio Lighting supplied two units of the Christie "MIRAGE 4K40-RGB" RGB pure laser projector, which provides the high-definition 4K resolution images and 3D experiences necessary to project full-dome 3D images of the quality sought by the theater.

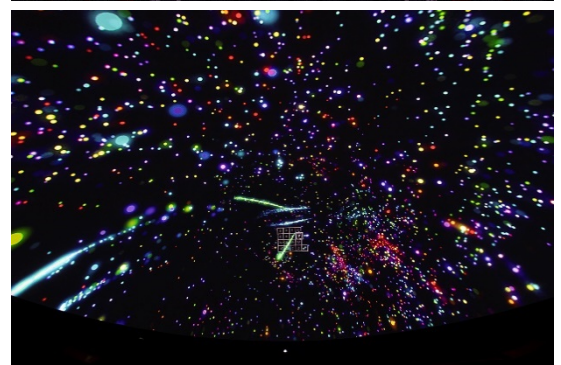
The MIRAGE 4K40-RGB is an all-in-one 40,000 lumen projector that combines a built-in laser light source and faithful image reproduction technology to achieve superb image quality, and image processing.

After this renewal, Miraikan made the following comment: **"Because the planetarium programs are so delicate, it was important that the star imagery wasn't outmatched by the 3D images and that they didn't interfere with each other, but we didn't notice any issues. It also achieved a natural "finish" by relieving the stress caused by the difference in color shades between the right and left eyes during 3D projection, which had been an issue of concern. And it has improved brightness and color, so we'll now be able to reproduce compelling visuals on a large screen. The number of units it uses has also been reduced to two, saving us time as well as reducing costs, and allowing us to effectively utilize space. In the future, when we update our content, I want to prepare items that can make effective use of this infrastructure."**

(Department of Museum, Mr. Hiroyasu Muraishi).



View of Miraikan



Example of high precision 3D image

[MIRAGE 4K40-RGB Key Features]

[1] All-in-one, compact design

No external chillers or laser racks. All devices are contained in a single body that weighs 130 kg.
The smallest and lightest high-brightness RGB pure laser projector available (according to our company's research).

[2] Omnidirectional

Allows for operation in any orientation for unlimited installation flexibility.

[3] Faithful image reproduction (Christie TruLife electronics)

Outstanding image fidelity with support for native 4K (4096 x 2160) as well as a high frame rate at 120Hz (4K) and 240-480Hz (2K).

[4] High-contrast

Achieves 5,000:1 On/Off contrast for vibrant detail expressiveness

[5] Expanded color gamut

Generates >95% of the Rec. 2020 color space to express rich, vibrant, and true-to-life visuals.

[6] Software that empowers its users (Christie Twist)

Built-in warping and multi-projector blending.

[Product Image]



[Project Information]

- Client: Miraikan - The National Museum of Emerging Science and Innovation (Japan Science and Technology Agency)
- Prime contractor: Konica Minolta Planetarium Co., Ltd.
- Delivery of projector: USHIO LIGHTING, INC.

■ **About Ushio Lighting**

Ushio Lighting, Inc. (Head Office: Tokyo)

Established in 1963, Ushio Lighting manufactures and sells a variety of light sources, including LEDs, as well as lamps, fixtures, and equipment for lighting fitted with these light sources, and equipment with laser applications in addition to selling projectors and industrial equipment. Over recent years, Ushio Lighting has aggressively developed solutions-type businesses through business proposals that integrate hardware and software (including control, presentation, and content) related to lighting, video, and acoustics for entertainment and through the provision of multiple services that leverage its functions as both a manufacturer and a trading company in the industry sector.

<http://www.ushiolighting.co.jp/en>

■ **About Christie**

Christie Digital Systems USA, Inc. (Head Office: Cypress, California, USA.)

Established in 1929, Christie Digital Systems USA, Inc. is a global visual and audio technologies company and a wholly owned subsidiary of Ushio Inc., Japan (JP: 6925). Christie revolutionized the movie industry with the launch of digital cinema projection, and since 1929 has embraced innovation and broken many technology barriers. From the world's largest mega-events to the smallest applications, our technology—from advanced RGB pure laser and SDVoE technology to image processing and LED display solutions—empowers people to create the world's best shared experiences.

<https://www.christiedigital.com>

■ **About Konica Minolta Planetarium**

Konica Minolta Planetarium Co., Ltd. (Head Office: Tokyo)

Konica Minolta Planetarium began with the completion of Japan's first planetarium after being founded in 1957. For over 60 years since then, we have handled everything related to planetariums, including the development and production of all types of projectors, content creation, dome theater design as well as construction, and the direct management of planetarium facilities. As the world's only comprehensive planetarium manufacturer, we have always created and transmitted new, fascinating experiences. We will continue to focus on "creating new value" to deliver a level of excitement that exceeds customer expectations.

<https://www.konicaminolta.jp/planetarium>

■ **About Ushio**

Ushio Inc. (Head office: Tokyo, TSE: 6925)

Established in 1964, Ushio Inc. is a leading manufacturer of light sources such as lamps, lasers, and LEDs, in a broad range from ultraviolet to visible to infrared rays, as well as optical equipment and cinema-related products that incorporate these light sources. It also makes products in the electronics field (such as semiconductors, flat panel displays and electronic components) and in the visual imaging field (including digital projectors and lighting). Many of these products enjoy dominant market shares. In recent years, the company has undertaken business in the life science area, such as the medical and the environmental fields.

<http://www.ushio.co.jp/en/>

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