When Christie first announced their Mirage S+4K projector, VR specialists Virtalis became an early adopter, recommending it to the British Geological Survey (BGS) as part of an integrated StereoWorks visualization system they provided early last year at their headquarters in Keyworth, Notts.

At the time, Virtalis’ technical director Andrew Connell commended the Christie Mirage S+4K projector as being “the first of its type in Europe”. So successful was this integration that Virtalis proposed an almost identical solution for the BGS at their large regional facility in Edinburgh, enabling geologists based there to explore their geological data in full stereo 3D. This allowed them to upgrade from a computer-based visualization system to a full 3D immersive modeling environment.

To accomplish this, Virtalis wrote a customized software package tailored for the BGS’ requirements – and again the Christie Mirage S+4K digital projector was equal to the VR specialists’ demands for high-grade active stereo, rear projected onto a 3.1m x 2.3m screen in 4:3 aspect ratio. Fitted with a 0.73:1 fixed lens, the Mirage S+4K is mounted on racking in the dedicated projection room.
The complex nature of today’s advanced visualization applications offers a variety of display and image challenges. Christie’s display solutions can produce images of any size or resolution, to meet virtually any requirement. As one of the industry’s original technology providers, Christie has identified the technological problems customers face and developed true business solutions to resolve and eliminate these issues. Christie understands each project is unique, and has developed a proven approach that puts our customers at the center of the process.

As your partner in 3D/Advanced Visualization, our world-class sales engineers, project managers, design and mechanical engineers and integration experts work together to deliver the most advanced, functional, and intuitive display solutions. Whether you are an integrator looking for a visual display partner, or an end-user with a project that has demanding specifications, Christie delivers application-specific solutions. Once integrated, you can expect consistent, repeat performance without worry as Christie’s high product reliability enables extensive, consistent use with minimal downtime.
Christie – your trusted partner

Each visualization environment brings its own set of requirements whether it’s single channel, multi-channel or an ultra-high resolution system. As one of the industry’s original technology providers, Christie has identified these technological problems customers face and developed true business solutions to resolve and eliminate these issues. Christie understands each project is unique, and has developed a proven approach that puts our customers at the center of the process.

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Once integrated, you can expect consistent, repeat performance without worry as Christie’s high product reliability enables extensive, consistent use with minimal downtime.

Where will you find Christie?

Christie provides purpose-built technology that spans a wide spectrum of today’s leading organizations including government and education institutions, industries such as automotive and aerospace, as well as research and development. The possibilities are as limitless as your imagination.

What is a TotalVIEW™ solution?

Christie TotalVIEW™ solutions are comprised of leading-edge display technology and world class system integration expertise. Christie’s TotalVIEW™ solutions can produce images in any size or shape, front or rear projected, spherical, cylindrical, conic or flat screen, from small-team scale screens to large scale dome configurations.

Christie display technology has been used in more 3D/Advanced Visualization environments than any other display company in the world. Whether it’s a fully integrated TotalVIEW™ solution, or the inclusion of industry-leading Mirage Series projectors, more of today’s leading organizations trust Christie to provide them with the right solution for their needs.

Built on a proven approach that takes you from upfront project consultation and needs analysis, to post-installation service and support, Christie’s team of integration and installation experts will work with you every step of the way.
World leader in complex visual display solutions

Your partner in Advanced Visualization

With a customer-centric approach to providing application-specific visual displays, Christie has a long history of delivering high-quality, reliable solutions and unprecedented levels of customer service and support for visualization customers worldwide.

Some of our projects include:
• Discovery World
• BP Aberdeen
• BP Gulf of Mexico
• Weil Cornell Medical College
• Marathon Oil
• Pennsylvania State University

Christie delivers complete visual solutions for sophisticated visualization systems. With design facilities spanning three continents and sales and support offices across the United States, Canada, Chile, United Kingdom, France, Spain, Italy, Germany, China, Singapore and Japan, Christie is well positioned to respond to any challenge.

3D/Advanced Visualization solutions designed and developed based on the world’s most installed 3D display technology – Christie’s Mirage Series DLP® projectors.

<table>
<thead>
<tr>
<th>TotalVIEW™ Mobility</th>
<th>TotalVIEW™ Wall &amp; Collaboration Solutions</th>
<th>TotalVIEW™ Immersive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>Multi-channel</td>
<td>Ultra-high resolution</td>
</tr>
</tbody>
</table>

Collaboration scale

- Small-team collaboration
- Any size team collaboration from conference rooms to large auditoriums
- Total data immersion

Visualization solution specifications

<table>
<thead>
<tr>
<th>Screen size</th>
<th>Customizable solutions designed around application requirements</th>
<th>Available in a variety of options</th>
</tr>
</thead>
<tbody>
<tr>
<td>67” diagonal or 80” diagonal</td>
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</tbody>
</table>

Steroscopic display

- Active or passive stereo options

Screen type

- Flat screen
- Typically flat screen
- Flat or curved screen options
- Flat or curved screen options
- • 3, 4, 5 or 6 sided walls
- • Reconfigurable options available

Aspect ratio

- Standard 4:3 or HD 16:9
- Custom scaled to meet requirements

Features

- Christie Spyder X20 with 20 mpx bandwidth, up to 120Hz frame rate and up to WQXGA (2560 x 1600) resolution sources
- Simultaneous 2D/3D application viewing/windowing
- Christie Twist™ enhanced warping/edge-blending
- Christie TrueIMAGE™ Integration Tools – AutoCal™, MotoBlend™

Compute platforms

- Christie TotalVIEW™ solutions are compatible with all computing platforms

Tracking

- Christie offers a variety of tracking options

Interaction

- Christie offers a variety of interaction tools

* Please consult with a Christie representative for solution pricing based on requirements. Some options not applicable for some systems.
Christie understands that each customer has a unique set of needs and requirements for their Advanced Visualization environment. Based on successful installations around the world, Christie has a proven process in place to take you and your project from inception to completion with proven technical reliability, on schedule and on budget.

**needs analysis**

What do you need your display system to do for you? Christie works with you to assess your workflow requirements and system considerations. Once the scope of the project has been agreed upon, Christie provides recommendations for the most cost-effective, functional and usable system to meet your specific needs.

**System design**

Diverse advanced visualization applications offer a variety of issues and challenges and Christie provides high-performance “real world” visual display solutions for 3D and Advanced Visualization. Factors such as geometry, image blending and warping, resolution, color and brightness uniformity are key criteria that must be addressed when designing advanced visualization display solutions. Christie’s expert system design offers an innovative individual approach to developing purpose-built, reliable and efficient solutions that meet even the most demanding requirements.

**Project management**

Christie’s certified project managers oversee the finite details of the entire process efficiently, on budget and without worry for a seamless transition from concept to completion and customer operation.

**Installation**

From initial site survey to final installation, Christie’s expert application engineers provide you with complete confidence that your Advanced Visualization system will be installed and integrated quickly, efficiently and 100% operational.

**Training**

Christie’s training and support leaves you and your staff completely capable, ensuring ease-of-use and full interaction, integration and maintenance of your TotalVIEW™ solution.

**Christie Comprehensive Care**

Our commitment to you starts the moment you start doing business with us. With established local support in over 40 North American cities alone and worldwide offices offering localized support for international installations and global deployments, we offer customer-centric service with years of extensive experience in high profile and mission critical 24/7 applications. Our professional services and support include the following:

- Feasibility studies
- Design
- Project management
- Installation
- Systems integration
- Training
- Managed services
- Remote monitoring and control

The Weill Cornell Visualization Facility is powered by Christie Mirage HD3 digital projectors, which feature high-definition resolution and projection technology, delivering superior images for molecular modeling, medical diagnosis and scientific research.
Christie designed and installed a custom, fully immersive Christie TotalVIEW™ CAVE at the renowned Discovery World in Milwaukee at Pier Wisconsin, offering an interactive glimpse into the future to educate and entertain. Dubbed by Discovery World as Human Interactive Virtual Education (HIVE), the immersive 3D environment allows visitors a "near-real" experience of life around them by placing them in the middle of virtual, three-dimensional worlds that are breathtakingly lifelike. The HIVE provides an interactive and educational 3D walk-through of the museum’s latest and most innovative concepts.

Discovery World’s HIVE achieves incredible levels of realism with Christie’s Mirage Series projectors – the most installed 3D projection display technology in the world. EON Reality, a partner with Christie, provides the interactive visual content management software that enables sensory and real-time visual interaction.

The HIVE features high-tech projection on three 8’ by 10’ walls and the floor, providing a unique, fully immersive visual experience. A set of active 3D glasses with motion-tracking technology completes the illusion, with the projected images shifting perspective in reaction to the person’s movements. Visitors will find themselves hovering above the water, walking through a small town in Portugal, or flying through the solar system, among nearly 30 experiences available.
**Christie Mirage Series**

Let’s face it, there is much more to an advanced visualization display solution than just the display, but the image is what the results will be measured against and having world-class projection technology as part of the overall solution is a definite advantage.

The Christie Mirage Series offers the broadest range of 3-chip 3D active stereo projection in either a single projector, or a multi-projector array. The first purpose-built stereoscopic line of projectors, the series represents the most installed 3D projectors in the world. Brightness ranges from 3000 to 18,000 ANSI lumens for active stereoscopic images from a single projector. SXGA+, HD and the latest WUXGA models are designed specifically for use in a variety of 3D applications for all types of immersive environments including cubes or CAVE™-like* systems and curved or flat screen powerwalls.

With the highest reliability, high brightness capability, excellent color and brightness uniformity and control coupled with low maintenance, the Christie Mirage Series is the most installed 3D projectors in the world.

Christie’s projectors feature with built-in geometric warping and edge-blending capabilities, and unique proprietary purpose-built features to meet the demanding requirements of advanced visualization display. A broad range of specifically-designed high contrast lenses for increased contrast, optional input modules, mounting systems and customized structures, networking capability and other peripherals provide the flexibility needed for your unique application.

**High product reliability**

Christie’s longer lamp life usage and an increased Mean Time Between Failure (MTBF) offer solutions built to last for extensive use in advanced visualization displays.

A Christie TotalVIEW™ visualization display features highly reliable, DLP® technology and delivers high brightness, unsurpassed color, and brightness uniformity and control capabilities. And, this proven digital technology is low maintenance. Christie's high level of post-install support provides worry-free, 24/7 system operation via our networked managed services programs, and on-site system administration and maintenance services.

**Remote networking, monitoring, diagnostics and control**

With ChristieNET™ connectivity through an IP address, displays can be monitored and controlled remotely.

**Operating/maintenance costs**

Lower power consumption, fewer lamp changes, less downtime and ease of set-up provide an overall lowered cost of ownership and a greater return on investment.

Christie’s user-friendly Graphic User Interface makes operation and set-up of the entire Christie Matrix Series uncomplicated. Multiple control options let the user choose what’s best for their application. Motorized lens functions provide power focus, zoom, horizontal and vertical offset – all at the touch of a button. Auto set-up recognizes sources and sets up correct brightness, contrast and position. With dual lamp technology you have reliability and longer lamp life.

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* CAVE™ is a trademark of the University of Illinois
Serviceability

Field-replaceable lamps, interface modules, a 15 minute MTBF, built-in diagnostics, and single-tool servicing – create a complete, self-sufficient solution.

Christie’s field-alignable DMDs and a cleanable optical engine put full control in the hands of the user. Replacement lamp costs are low and Christie offers the best warranties on the market – 2 years parts and labor (excluding light engine).
Christie’s visual displays offer exceptional image quality from SXGA+, HD and WUXGA DLP® technology, high-quality optics and 10-bit image processing. Images are crisp, clean and finely detailed for a truly realistic experience.

Featuring 10-bit image processing, Christie offers high bandwidth signal processing. With 220 MHz, Christie’s visual displays support additional functionality such as Picture-in-Picture and seamless switching between sources.

### Christie Twist<sup>TM</sup>

Christie Twist<sup>TM</sup> is a powerful, easy-to-use option to manage arrayed projectors that allows users to display virtually any image, anywhere. This powerful tool allows for pixels to be mapped to any projection surface with proper geometry and perfect pixel to pixel alignment. Christie Twist<sup>TM</sup> provides the enhanced warping and expert blending required for arrayed projectors to operate as a single, uniform display. Christie Twist<sup>TM</sup> is a dedicated, purpose-built hardware and software solution that enables full image warping and advanced edge-blending, through the control of a powerful and easy-to-use Graphic User Interface. Users can expertly edge-blend multiple curved images seamlessly. Images can be warped to fit virtually any dimension or shape display with perfect pixel to pixel alignment.

<table>
<thead>
<tr>
<th>Christie Twist&lt;sup&gt;TM&lt;/sup&gt; software features</th>
<th>Twist</th>
<th>Twist Pro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custom warping, edge-blending of multiple projectors (up to 6 projectors)</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Display control points and warp lines on projector</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Add, delete, copy and paste multiple warps and blends on a single projector</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Module with included operating software</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Easy to use GUI that runs on an external PC</td>
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<tr>
<td>Allows up to a 10’x 10’ grid</td>
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<td>✔️</td>
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<tr>
<td>Control from any PC via Ethernet or RS-232 protocols</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Includes Christie Twist&lt;sup&gt;TM&lt;/sup&gt; Virtual Remote</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Blends are defined with a black and white curve pair for each edge of the screen</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Masks are defined with a mask curve for each edge of the screen</td>
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<tr>
<td>Has a Blend Calculation feature</td>
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<td>Contains online help and printed manual plus an electronic PDF version on the CD</td>
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<td>✔️</td>
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<tr>
<td>Single license of Christie Twist&lt;sup&gt;TM&lt;/sup&gt; Pro</td>
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<td>✔️</td>
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<tr>
<td>Supports single or multiple projectors simultaneously</td>
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<td>✔️</td>
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<tr>
<td>Allows an unlimited and arbitrary number of grid lines</td>
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<td>✔️</td>
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<tr>
<td>Advanced edge-blending</td>
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<td>✔️</td>
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<tr>
<td>Gradient preview of edge-blends</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Brightness uniformity control</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Display control points and warp lines on projector</td>
<td>✔️</td>
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<tr>
<td>AutoSave</td>
<td>✔️</td>
<td>✔️</td>
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<tr>
<td>Projector control through Twist&lt;sup&gt;TM&lt;/sup&gt; software interface</td>
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The University of Kassel’s Institute of Production Technologies and Logistics includes the Production Organization and Factory Planning division. One focal point of this division’s research is the digital factory. Simulation and visualisation are the main pillars of the digital factory, and thanks to Christie and partner 3Dims GmbH of Frankfurt, the division has an advanced new visualization system.
SuperCR™ contrast ratio

With the internal variable contrast aperture, contrast ratios range from 1500-5000:1 for vivid, dynamic image reproduction and low black levels for accurate visual displays.

Brightness and color uniformity matching across multiple screens

Brightness and color uniformity matching across multiple screens is integral for completely life-like reproduction of the source, every projector and every screen in the display must be equal in brightness and color.

Digital Color Management (DCM™)

The Christie Matrix Series comes standard with a specially designed optical system with a very tight ± 5nm tolerance for primary colors, making multi-channel adjustments between multiple projectors an easy task to accomplish.

Color Temperature Control (CTC™)

Provides the flexibility to adjust color temperature with a range from 3200K – 9300K.

Custom Gamma Adjustment (CGA™)

Offers full control of gamma curves, as well as white, black and grey levels to ensure digitally accurate colors and greyscale tracking.

Primary Color Adjustment (PCA™)

Provides individual RGB color matching for multi-channel applications to eliminate color variations across multiple screens for uniform, color-matched projector arrays.

Spatial Light Image Construction (SLIC™)

Christie-built DLP® engines ensure high-quality convergence and registration between red, green and blue DMDs.

Lamp Power Management (LPM™)

Provides users with the ability to adjust power to the lamps for a consistent and uniform brightness, to monitor and manage the lamp operation in the display. Brightness adjustments can be made from center to edge across the image for up to 100% uniformity.
Christie TrueIMAGE™ integration solutions

In today’s world, diverse and highly technical visual solutions are applied to solve some of the key issues and challenges facing global scientific and manufacturing communities. Because each and every application is different, and a “one type fits all” display is not the answer, we developed Christie TrueIMAGE™ integration solutions – customizable, reliable and efficient tools designed to meet the most demanding requirements of blended projection arrays.

Factors such as geometry, image blending and warping, resolution, color and brightness uniformity, and latency are key criteria that must be addressed when designing advanced visualization displays.

Christie TrueIMAGE™ integration solutions offer:
• Reduced location resource requirements
• Increased customer independence in terms of display maintenance
• More realistic displays
• Enhanced visual performance of the complete system
• Optimized displays

AutoCal™ – automatic display system calibration

You don’t need to be an expert to maintain a blended projection display and keep it running at top visual performance. As part of Christie TrueIMAGE™ integration solutions, Christie AutoCal™ calibrates virtually any arrayed projection display, from flat to cylindrical to spherical, and adjusts it to its optimized viewing configuration.

A simple checkbox interface makes interaction user-friendly allowing users to re-calibrate both geometry and blending with unequalled accuracy. Other features such as image color and brightness correction can also be adjusted.

Christie AutoCal™ offers reduced location resource requirements and increased customer independence in terms of maintaining multi-projector displays. Christie AutoCal™ delivers the results you require and allows you to spend your time using your display, not maintaining it.

Have you determined a need for a large-scale arrayed projection environment or display, but don’t think you have the resources or the expertise to support it? How much more productive can you be with your display stabilized, and your system maintenance and downtime reduced? With Christie AutoCal™ you have expert image display adjustment capabilities at your fingertips.

Christie Advanced Color™

Part of the Christie TrueIMAGE™ integration solution suite of tools, Christie Advanced Color™ is a user-assisted tool that enables advanced color matching from simple to complex arrays, regardless of the level of experience.

Using a precision light meter, computer and software with a simple user interface, the operator is automatically guided to point the meter at the screen and data is fed into the computer. Looking at each individual projector, the calibration camera captures information about projector performance and feeds it into the color calibration processing.

The computer performs the calculations and places the color mapping information on the projectors – that information stays on the projector until you choose to re-tweak the system.

Three Mirage Series projectors are the core of the South Australian Virtual Reality Center 3D Visualization system. The center is used mainly for oil and gas applications as well as research.
Christie MotoBlend™ – motorized optical blending

Day or night, dark or light applications, why compromise your display system? Developed using our extensive experience with dynamic content, Christie MotoBlend™ helps maximize the best of both worlds when it comes to life-like images and DLP® based displays and environments - system contrast and optimized dark scene applications.

With digital projection technology fast becoming a standard in Advanced Visualization, Christie’s motorized optical blending ensures your dark scene content (such as night time training applications) is evenly maintained across the entire display, without any residual light distractions or artifacts that can be found in other manufacturer’s digitally projected displays.

Designed for use in static or motion platform applications, Christie MotoBlend™ is engaged or disengaged depending on the intensity of the image. Christie’s motorized optical blending preserves your system’s maximum contrast ratios at all times as well as maintains optimum blends for all types of content.

If you’re looking for an integrated system that improves your experience and is flexible enough to offer zero compromise between your light and dark scene applications, Christie’s got it.
**Christie advanced image processing – Vista Spyder**

The Christie Spyder X20 is a versatile hardware-based video processor combined with the flexibility of a universal routing switcher that enables large megapixel displays with increased frame rate capabilities for new levels of visualization functionality.

What separates the X20 from everyone else is its total capability package at a high frame rate. The X20 supports up to 20 mpx bandwidth at up to 120 Hz frame rate with source inputs/outputs up to WQXGA (2560 x 1600) resolution combined with the capability to rotate the image for portrait mode displays, without bandwidth limitations.

Users can take any 2D or 3D source format and blend, window, mix, scale and then route the signal to any destination – quickly and easily. The X20 allows for ultra high-resolution digital inputs and outputs, along with extra flexible display support and an amazing source-overlapping capability.

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**University of Siegen 3D lab**

At the University of Siegen, Germany, the Faculty of Electrical Engineering and Computer Science decided to set up an impressive 3D installation in their Virtual Reality lab. They created a presentation room with an area of about 50 square metres that has room for up to 30 people. This is an absolute novelty, because it is technically quite advanced. A half-cylinder and floor projection in a room about 5 metres in diameter and 2.6 metres in height allows the users to work interactively in a computer simulated, virtual environment.

Mounted in four stereoscopic pairs, a total of eight Christie DS+300W projectors are used for the projection onto the cylinder. The floor area is fed by another four Christie DS+300W. These 1-chip DLP® projectors are the predecessors of the new Christie DS+305W models, and like these, they are especially well suited for the 3D environment due to their 10-bit image processing, small footprint and light weight.

Partner: Viscon

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![Christie advanced image processing – the Vista Spyder – is the only system that allows you to simultaneously view both 2D and 3D applications. It allows for complete functionality and compatibility with any source with any configuration of projection displays.](image-url)
Tim Wilson, Professor of Anatomy, Faculty of Health Sciences, University of Western Ontario, describes his new 3D Virtual Reality Theatre as “the imagination tool of the millennium”. Western’s new “anatorium” is the first of its kind in North America. The Western Faculty of Health Sciences is at the forefront of innovation into research and education in the Health Sciences and is committed to providing the best student experience among Canada’s research-intensive universities.

Previously, there were no labs offered in anatomy. Now between 800-1200 students participate in the classes. The 3D lab features informal tables and chairs as well as stadium seats and benches – most of which are covered with plastic models of various anatomical parts. Full size skeletal models balance either side of the screen – but it’s the visual phenomenon on the screen that can be turned to any viewing angle that truly “deepens” the experience.
The Christie Mirage Series offers the broadest range of 3-chip 3D active stereo projection in either a single projector, or a multi-projector array. The first purpose-built stereoscopic projectors, this series represents the most installed 3D projectors in the world. Brightness ranges from 3000 to 18,000 ANSI lumens. SXGA+, HD and the latest WUXGA models are designed specifically for use in a variety of 3D applications for all types of immersive environments including cubes or CAVE-like systems and curved or flat screen power walls.

The series expansion with WUXGA resolution provides an increase field of view and an optimal aspect ratio for greater choice and installation flexibility for visualization displays. Offering even more pixels with 1920 x 1200 resolution and active stereo from a single projector, the Mirage Series is simple to set up and easy to use.

3-chip DLP® 3D active stereo projection up to 120Hz – the Mirage Series ranges from cost-efficient single projection systems to high end solutions encompassing high resolution, complex applications and arrayed solutions.

Christie – more pixels, more projectors, more reality.
The Christie Mirage Series features the widest source compatibility and has built-in Ethernet networking for full compatibility with ChristeNET™.

Why choose Christie DLP® products?
• Superior image quality
• Exceptional brightness
• Natural life-like color
• Unrivalled reliability
• Utmost versatility

Display technology
Featuring high-quality DLP® technology, the Christie Mirage Series is highly reliable, delivers high brightness and unsurpassed color, brightness uniformity and control capabilities. As well, this proven digital technology is low maintenance with greater than 650,000 hours Mean Time Between Failure (MTBF).

Image quality
The Christie Mirage Series projectors are illuminated by Xenon lamps. They deliver superior image quality and the ability to color-match multiple projectors for extremely bright, color rich, uniform images – whether multiple projectors on a single screen, or multiple screen displays.

Image processing
With 10-bit image processing, the Christie Mirage Series offers high bandwidth signal processing. The S+ series feature 220MHz bandwidth that supports a 3D refresh rate of 115Hz at SXGA+ and 120Hz at SXGA. Unique to the HD and WUXGA series, refresh rates are processed up to 120Hz with full 1920 x 1080 resolution.

3D content can be supplied to the projector over single link DVI-D, analog and/or optional HD-SDI connections.

The Mirage HD models support Picture-in-Picture functionality with simultaneous multi-sources stereo and/or mono viewing in foreground, background or both windows.

Ease of use
A user-friendly Graphic User Interface (GUI) makes operation and set-up of the entire Christie Mirage Series uncomplicated. The GUI enables full and easy control of the projector. Multiple control options let the user choose what’s best for their application – built-in, IR and wired remote keypad, RS-422 or RS-232 control, or through ChristeNET™ via the Ethernet port. Motorized lens functions provide power focus, zoom, horizontal and vertical offset – all at the touch of a button. Auto set-up recognizes sources and sets correct brightness, contrast and position.

Serviceability
Operation and maintenance of the Christie Mirage Series is easy as well. Quick internal access with 1/4-turn screws, a quick-change ballast, a removable image processing module, field-alignable DMDs and a cleanable optical engine, puts full control in the hands of the user. Replacement lamp costs are low and Christie offers the best warranties on the market.

Standard accessories
• IR keypad (w/batteries)
• Line cord
• Stereo sync harness
• User manual

Optional accessories
• Fixed and zoom lenses available with throw ratios from 0.67:1 to 7.3:1
• Christie Twist™ image warping module with enhanced edge-blending
• Wired remote control and RS-422 two way controller
• Ethernet, RS-232, RS-422 cables
• Service manual
• KoRE™ 10-bit librarian
• Lens adapter (for competitive lens)
• Remote IR sensor
The Christie Mirage Series provides installation flexibility and compatibility with virtually any data, video and HDTV source in use today – from VGA to QXGA.

- RGBHV/YPbPr via 5 BNC
- DVI-I for digital/analog/RGB/YPbPr (HDCP)
- One composite video, one S-video
- Two optional slots for analog/digital modules
- Three RS-232 ports and one RS-422 port
- On-board ChristieNET™ connectivity (RJ45)
- Built-in backlit keypad and IR remote control

A suite of optional, specifically-designed lenses includes both fixed and zoom lenses ranging from 0.67:1 to 7.3:1 and features a durable lens mount with motorized horizontal and vertical offset. With quick lens insertion, the Christie Mirage Series is easy to work with.

From 500W to 3.0W, the Christie Mirage Series features user-replaceable Xenon lamp modules with adjustable lamp power for lower brightness. The stable color temperature over the course of the lamp life and the power range provides the best lamp technology for color matching across multiple screens.

The Christie Mirage Series features an extremely high contrast ratio of 1600-2000:1 full field, 450-600:1 ANSI. With the motorized IRIS, users can adjust for high contrast ratio and better black levels, for any given application.
Louisiana Immersive Technologies Enterprise (LITE) – a joint effort of the State of Louisiana, the Lafayette Economic Development Authority (LEDA) and the University of Lafayette. The 61,000 square foot complex enables users to collaborate and interact in real-time with even the most complete computer graphics models. This first of five phases includes an active stereo curved screen display for audiences up to 20, featuring Christie Mirage S+4Ks and Silicon Graphics, Inc. (SGI) visualization and computing ingenuity. LITE involves partnerships between government, universities and industry for basic research, application development, testing and validation, product development and commercial production, along with delivery of visualization technologies and super-computer modeling.

Christie Twist™ is a powerful, easy-to-use tool to manage arrayed projectors that allows users to display virtually any image, anywhere. This tool allows for pixels to be mapped to any projection surface with proper geometry and perfect pixel-to-pixel alignment. Christie Twist™ provides the enhanced warping and expert blending required for arrayed projectors to operate as a single, uniform display.
**Direct key access to the most-used major functions and auto set-up of sources with correct brightness, contrast and position means operation and set-up of the Christie Mirage Series are intuitive.**

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**Christie Twist™ – total image control**

Christie Twist™ is a dedicated, purpose-built hardware and software solution that enables full image warping and advanced edge-blending through the control of a powerful and easy-to-use Graphic User Interface. Users can expertly control seamless, multiple edge-blended, curved images. Images can be warped to fit virtually any projection surface – flat, curved or spherical screens – with perfect pixel-to-pixel alignment.

The internal hardware module is integrated into the 10-bit image processing module. Latency is typically as low as 10-20 lines. Once the warping and blending grids are set for multiple projectors, the properties will be stored on the projectors and on the external PC. Multiple blend and warp properties can be stored on the projectors – providing easy access and immediate recall of settings.

As an additional optional software upgrade, Christie Twist™ Pro is a single license that supports an unlimited number of projectors per array and an unlimited and arbitrary number of grid lines, up to and beyond a 10’ x 10’ grid. Christie Twist™ Pro features advanced edge-blending, with rotate and flip capabilities, a gradient preview of edge-blends and a brightness uniformity controller.

**Brightness uniformity control**

Adjusts center-to-edge brightness uniformity across the image – with the Christie Mirage Series you can achieve up to 90% uniformity.

**Dark Interval Adjustment (DIA™)**

DIA™ gives the user a mechanism to tune the projector’s interaction with the LCD shutter glasses to achieve the optimum image with a minimum of color artifacts or cross-talk between left and right eye images. The dark interval is the time between left and right frames when the projector is showing black.

**Stereo sync harness**

Simplifying projector set-up for the end-user, the stereo sync harness can provide projector control of the phase of the output through the menu. This purpose-built function for active stereo projection supports emitters and enables left/right inversion.

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**Competitive advantages**

- Higher resolution – SXGA+ – 1400 x 1050, HD – 1920 x 1080 or WUXGA – 1920 x 1200
- Twice the contrast (1600-2000:1)
- Internal scaling of stereo signals
- Internal warping and enhanced edge-blending module option with Christie Twist™
- Built in ChristieNET™ for networking and control
- First and only full HD 1920 x 1080 3D projectors
- Mirage S+ series supports up to 120Hz active stereo
- Mirage HD and WUXGA series projects up to 120 Hz active stereo without requiring ultra-high bandwidth
- Stereo video capable with optional HD-SDI input module on Mirage HD and WUXGA series

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When Christie first announced their Mirage S+4K projector, VR specialists Virtalis became an early adopter, recommending it to the British Geological Survey. A Christie Mirage S+4K is rear projected with a 0.73:1 lens on a 3.1m x 2.3m screen as part of an integrated StereoWorks 3D visualization system at the British Geological Survey’s headquarters in Keyworth, Nottingham, UK.
<table>
<thead>
<tr>
<th>Component</th>
<th>Mirage S+3K</th>
<th>Mirage S+6K</th>
<th>Mirage S+14K</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brightness</strong></td>
<td>3000 ANSI (±10%)</td>
<td>6500 ANSI (±10%) @ 200-240 VAC</td>
<td>16,000 ANSI (±10%)</td>
</tr>
<tr>
<td><strong>Contrast</strong></td>
<td>1500-2000:1 full on/off</td>
<td>1500-2000:1 full on/off</td>
<td>1600-2000:1 full on/off</td>
</tr>
<tr>
<td></td>
<td>450:1 ANSI</td>
<td>450:1 ANSI</td>
<td>450:1 ANSI</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>75lb (34kg)</td>
<td>75lb (34kg)</td>
<td>160lb (73kg)</td>
</tr>
<tr>
<td><strong>Shipping weight</strong></td>
<td>120lb (54kg)</td>
<td>120lb (54kg)</td>
<td>230lb (104kg)</td>
</tr>
<tr>
<td><strong>Size (LxWxH)</strong></td>
<td>22.3 x 26.0 x 12.3&quot; (566 x 660 x 313mm)</td>
<td>22.3 x 26.0 x 12.3&quot; (566 x 660 x 313mm)</td>
<td>32.1 x 24.9 x 15.1&quot; (815 x 631 x 384mm)</td>
</tr>
<tr>
<td><strong>Lamp type</strong></td>
<td>500W CERMAX® Xenon</td>
<td>1.0kW CERMAX® Xenon</td>
<td>1.0kW CERMAX® Xenon</td>
</tr>
<tr>
<td><strong>Lamp life</strong></td>
<td>1500 hrs (typical)</td>
<td>1500 hrs (typical)</td>
<td>750 hrs (typical)</td>
</tr>
<tr>
<td><strong>Power VAC</strong></td>
<td>100-240 VAC @ 50/60Hz</td>
<td>100-200 VAC @ 50/60Hz</td>
<td>200-240 VAC @ 50/60Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>1000W max</td>
<td>1600W max</td>
<td>4000W max</td>
</tr>
<tr>
<td><strong>Thermal dissipation</strong></td>
<td>3412 BTU/hr</td>
<td>5640 BTU/hr</td>
<td>13,648 BTU/hr</td>
</tr>
<tr>
<td><strong>Operating current</strong></td>
<td>10A @ 100 VAC</td>
<td>12A @ 100 VAC</td>
<td>20A @ 200 VAC</td>
</tr>
</tbody>
</table>

**Digital Color Management (DCM™)**

The Christie Matrix Series comes standard with a specially designed optical system with a very tight ± 5nm tolerance for primary colors, making multi-channel adjustments between multiple projectors easy to accomplish.

**Color Temperature Control (CTC™)**

Provides the flexibility to adjust color temperature with a range from 3200K – 9300K.

**Custom Gamma Adjustment (CGA™)**

Offers full control of gamma curves, as well as white, black and grey levels to ensure digitally accurate colors and greyscale tracking.

**Comprehensive Color Adjustment (CCA™)**

Provides individual RGB color matching for multi-channel applications to eliminate color variations across multiple screens for uniform, color-matched projector arrays.

**Super CR™ contrast ratio**

With the internal variable contrast aperture, contrast ratios range from 1500-5000:1 for vivid, dynamic image reproduction and low black levels for accurate night-scenery mode.

**Spatial Light Image Construction (SLIC™)**

The Christie Matrix Series manufacturing ensures high-quality convergence and registration between red, green and blue DMDs.

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![Diagram](image)

The Christie Mirage Series offers unique features that provide the ultimate control and stunning image quality.
Lamp Power Management (LPM™)

Provides users with the ability to adjust power to the lamps for a consistent and uniform brightness, to monitor and manage the lamp operation in the display. Brightness adjustments can be made from center to edge across the image up to 100% uniformity.

Lenses

Available on all projectors. Fixed and zoom ranging from 0.67:1 to 7.3:1.

Regulatory approvals (applicable to all projectors)

These products conform to the following regulations related to product safety, environmental requirements and electromagnetic compatibility (EMC):

- FCC Part 15, Subpart B Class A
- CISPR22/EN55022
- CISPR24/EN55024
- UL 60950-1 first edition
- CAN/CSA-C22.2 No 60950-1-03 first edition
- IEC60950-1:2001
- CCC*
- 2002/95/EC RoHS

Build to Order

Several of our models will be available on a build to order basis.

For details, please contact your Christie sales representative.

For full product specifications, please visit our website: christiedigital.com

* Some models still pending CCC approvals – contact your Christie sales representative.
COMPANY PROFILE

Space Vision was founded in October 2002 by a team of engineers and businessmen with vast experience in the area of electronics and audiovisual systems. The main goal of the company's founders was the creation of a flexible and dynamic enterprise, which would bring a new era in the field of the audiovisual solutions in Greece.

Since its foundation, our company has established a high reputation over the years, by implementing medium and large-scale projects and has managed to hold one of the highest positions in the area of AudioVisual Integrators in the Greek Market.

The company’s activities vary from the trade, installation and engineering of audiovisual systems to the implementation of turnkey projects.

Today, the name of Space Vision stands out in hundreds of high-tech installations in cinemas, studios, classrooms, meeting rooms, auditoriums, convention centers, theaters and museums across a broad spectrum of public and private organizations and agencies all over Greece.