

Visual display solutions for simulation and visualization

Aerospace
Defense
Design and architecture
Education and training
Energy
Government and infrastructure
Museums and entertainment
Sciences and biotechnology
Transportation

CHRISTIE®



Christie integrated display solutions

Christie® is the display solution expert who solves customer problems through our optimal use of technology for simulation and visualization markets. We understand the big picture. We understand the complexities and challenges of integrating display technology into your visual system needs. Whether a headtracked immersive CAVE™ environment with high resolution datasets, or a spherical screen creating an out-the-window view, factors such as geometry, image blending and warping, resolution, color, brightness uniformity, latency and frame rates – are integral considerations.

We leverage our exceptional products, knowledge and team experience to provide you with a complete integrated solution that's reliable, effective and sustainable and that accurately addresses your requirements for high performance, high resolution visual display systems.

We listen and evaluate your needs and goals to solve specific application challenges. Christie has the innovative technologies, engineering strength and integration expertise to offer completely customized solutions and turnkey visual display options.

Our solutions minimize your initial investment and the lifetime costs of your integrated display system. We work with you to deliver the most functionally advanced and intuitive display solution. Whether you are an integrator looking for a visual display partner, or an end user with demanding project specifications, Christie delivers application-specific solutions.



Customized solutions that answer your needs

Christie's ISO certified project management practices see you through the design, installation, integration and complete training and support of your project requirements. Christie's experienced team will integrate and install the system and fully train your employees and provide you with ongoing support.

Leading-edge technology plus world-class system integration expertise

The complexity of today's simulation and visualization applications poses a variety of display and image challenges. Christie's integrated display solutions can produce images of any size or resolution and meet almost any requirement. As one of the industry's leading technology providers, Christie has identified the technological problems that our customers face and we've developed innovative visual display solutions to resolve these issues.

Our integrated display solutions can be either customized or come as a standard preconfigured system.

Create your solution from our:

- 1-chip or 3-chip DLP projection technology
- Lamp or solid-state illumination
- Motion tracking and interactivity
- Real-time 3D display graphics
- Infrared NVG capabilities
- Anti-smear functionality

Industry-leading service and support includes service offerings such as:

- Next day parts delivery
- Repair and replacement
- 24/7 remote monitoring of your display and connected devices
- Reporting
- Software upgrades
- Troubleshooting and training

▲ JiaoTong University - Shanghai, China, features a 1x3 curved screen, 2.5 meters tall by 8 meters wide that displays a blended, seamless image with a 90-degree field of view.

Integrated display solutions

Service and support – from concept to reality

Completely customized solutions AND standard turnkey visual displays

World-renowned, proven technology – Christie Matrix and Christie Mirage DLP®-based projection platforms

Christie Twist™ – Industry-standard warping and blending technology

System integration tools – Christie AutoCal™, Christie Advanced Color™, Christie MotoBlend™

Markets served

Within simulation and visualization, Christie designs, integrates and installs visual display solutions for:

- Aerospace
- Defense
- Design and architecture
- Education and training
- Energy
- Government and infrastructure
- Museums and entertainment
- Sciences and biotechnology
- Transportation

Whatever the application, our solutions are purpose-built to meet your unique projection requirements, and backed by industry-leading service and support ensuring complete customer satisfaction.



3-chip DLP projection

Christie delivers stunning, long-lasting image quality with unsurpassed DLP technology for a large array of high-performance, high resolution projection and display applications. With better color control, Christie delivers a smoother, cleaner, seamless digital picture. Our image quality is an industry benchmark.

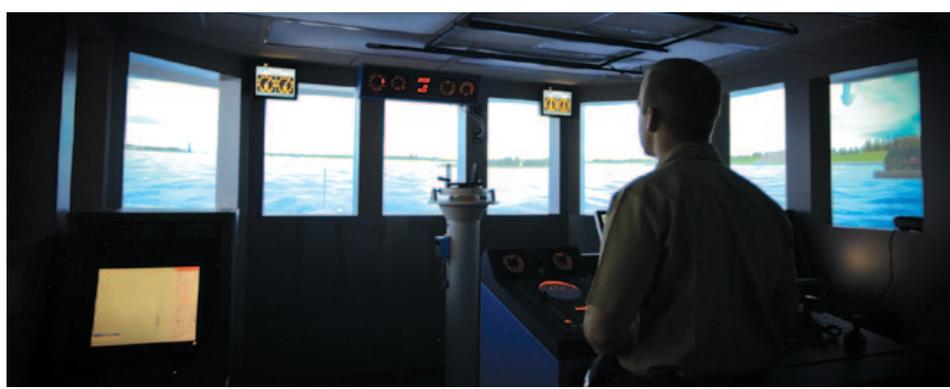
- ▼ The U.S. Naval Academy (USNA), Annapolis, Maryland. The U.S. Naval Academy chose 14 Christie DS+6K-M projectors with Christie Twist and Christie AutoCal software to build two state-of-the-art ship simulators for their cadets.

The best performing illumination

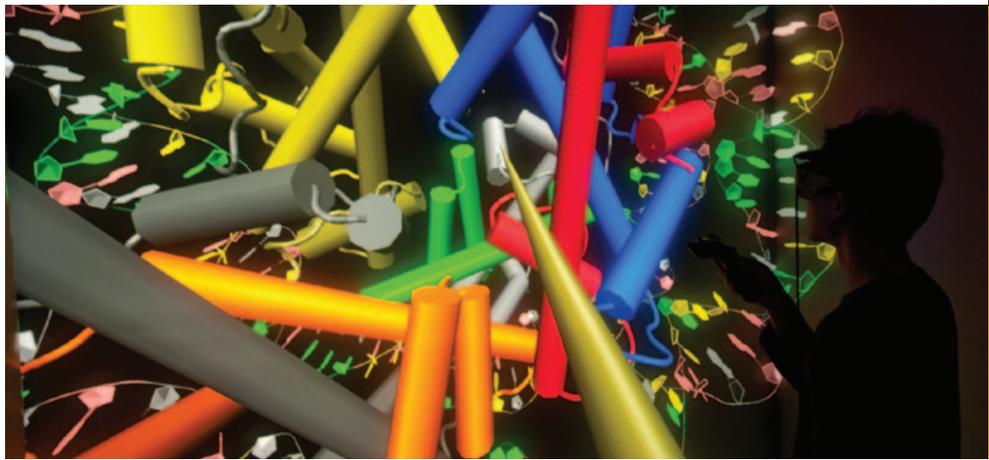
Our Xenon-based 3-chip DLP projectors deliver superior image quality and color matching across multiple projectors for extremely bright, color rich, uniform images – whether you’re using multiple projectors on a single screen or on multiple-screen displays. Our Mercury-based 3-chip DLP projectors share many of the same qualities, but offer quieter projector operation and an overall lower cost of ownership. Discharge lamps are very efficient at converting electrical power into light and can operate at a low power. These lamps have a long expected lamp life. The one-two punch of higher efficiency and longer life means these lamps have a low operating cost.

1-chip DLP LED illumination

With Christie’s single chip DLP LED illumination platform, we provide high resolution, pixel density and reliability, and continuous system calibration in a cost-effective flexible platform that offers 2D/3D capability or, NVG stimulation. Utilizing solid-state LED illumination, provides precise, lifelike, vibrant colors and consistent performance over its lifecycle.



◀ Jenn Norton's Tesseract exhibit - a CAFKA collaboration in the Christie Hive at the Communitech Hub, Kitchener, Ontario.



▶ Christie's 3D immersive technology at Weill Cornell Medical College, New York, NY, enables visionary breakthroughs in biomedical research.

Christie system integration tools

Christie offers system integration tools as part of our complete display solution package. Customizable, reliable and efficient integration tools that meet even the most demanding key visual environment requirements, Christie system integration tools include:

Christie AutoCal

Christie AutoCal automatically calibrates virtually any arrayed projection display, from flat to cylindrical to spherical, and adjusts it to its optimized viewing configuration. Christie AutoCal offers reduced location resource requirements and increased customer independence in terms of maintaining multiprojector displays.

Christie MotoBlend

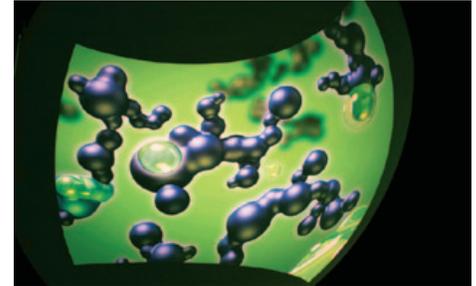
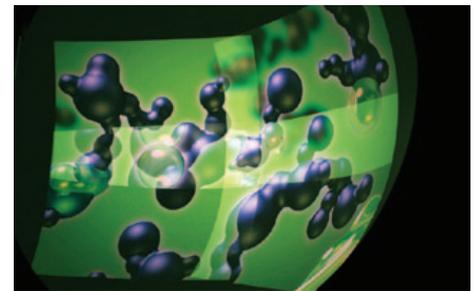
Christie MotoBlend ensures your dark scene content (such as night time training applications) is evenly maintained across the entire display, without any residual light distractions or artifacts sometimes found in other multiprojector displays.

Christie AccuFrame

Developed specifically to address the simulation market, Christie AccuFrame™ enables the customer to reduce perceptible image smearing due to image retention and eye motion. Fully adjustable to support various frame rates and environments, the unique advanced electronics in all Matrix Series projectors come standard with AccuFrame to accurately display high speed simulation content for the most true-to-life displays.

Christie Twist

Christie Twist is a powerful tool that maps pixels 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 – in both visualization and simulation applications.



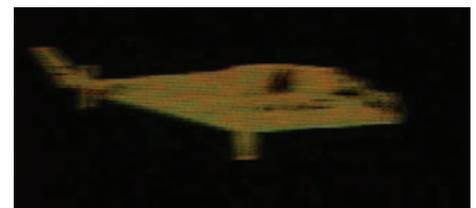
▲ Defence Research and Development Canada and the Canadian Forces Aerospace Warfare Centre have partnered to advance training methods for the Royal Canadian Air Force. Recently they improved their state-of-the-art Hercules Observer Trainer (HOT) by adding two Christie Matrix StIM™ projectors.

▲ Expert advanced warping and blending through Christie Twist.

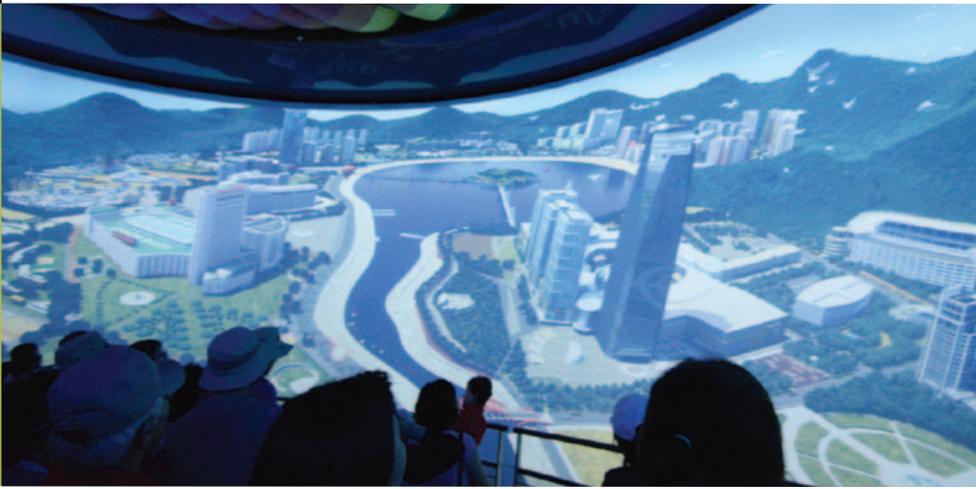
▶ Christie Edgeless Graphics Geometry (EGG) - 16 megapixel, 240-degree field of view display featuring Christie AutoCal, Christie Matrix StIM and Christie Twist.



▲ With Christie AccuFrame.



▲ Without Christie AccuFrame.



- ◀ The first-of-its-kind 360-degree simulated ride was featured at the LOTTE Pavilion at Expo 2012 Yeosu Korea. Sixteen Christie WU12K-M WUXGA 3-chip DLP projectors display visuals for "A World Full of Pleasures", featuring a virtual hot-air balloon ride in the pavilion's miniature amusement park.

Evolution of Christie

Christie has a rich history in the cinema industry and is credited for introducing digital projection technologies that set the stage for the contemporary movie theaters. In 1999, Christie acquired Electrohome Projection Systems, an international manufacturer of commercial projection systems.

Christie's broad range of technologies include DLP Cinema® projectors, LCD and DLP projectors, rear screen projection modules, video walls, and cutting edge projection technologies for 3D, virtual reality and simulation.

Christie has always chosen to develop products and solutions that are purpose-built for the application they serve.

Today, Christie is the only single-source provider of high performance digital projectors and visual solutions in North America and one of only a handful in the world. As a global market leader, Christie has installed over 100,000 projection display solutions in cinema, large audience environments, control rooms, business presentations, training facilities, 3D and virtual reality, simulation, education and media and government.

Why choose Christie?

More than 80 years of experience provides a lot of insight. Christie's decades-long partnership with technology display and light source leaders has resulted in the most reliable projectors in the industry, giving Christie a long history of innovation and technology leadership in the world of projection and display solutions.

Environmental leadership

We recognize our responsibility to control impacts to the environment from our business activities, products and services. We are fully committed to environmental solutions for current and future generations and to meet or exceed applicable environmental laws, regulations and organizational objectives. As an industry leader, we are committed to prevention of pollution and continual improvement through the implementation of our environmental management system.

Where will you find Christie?

Drawing on worldwide experience with Fortune 1000 companies, Christie delivers high-quality, reliable solutions and unprecedented levels of customer service and support for both simulation and visualization customers worldwide. With Christie the possibilities are as limitless as your imagination.

With design facilities spanning three continents and sales and support offices across the United States, Canada, Brazil, United Kingdom, France, Spain, Italy, Hungary, Germany, China, Singapore, Japan, United Arab Emirates, India and Korea, Christie is well-positioned to respond to any challenge.



- ◀ The Full Flight Simulation system at Royal Naval Air Station (RNAS) Culdrose, Cornwall, England, where training facilities for the RN Sea King helicopter are based, recently underwent a visual system technology upgrade to Christie's new Matrix StIM – an advanced LED-based DLP projection system.

- ▶ The Visdec Electronic Decision Theater at the Huazhong University of Science and Technology (HUST), Wuhan, China is a digital “think tank”, as well as the largest advanced visualization display in China.



People and experience

It's our experience and our people that make Christie world-class.

Christie is a pioneer in 3D stereoscopic DLP technology, a true innovator in visual environments. As your partner in 3D/ visualization and simulation, our world-class sales engineers, solution architects, project managers, design and mechanical engineers and integration experts work together to deliver the most advanced, functional and intuitive display solutions. Our sales engineers provide recommendations for the most cost-effective, functional and usable system to meet your needs.

Solution architects – The solution architect leads the technical development from proposal through to final installation and acceptance. This involves leading the design team in the application of display technology so that it best meets your requirements.

Project management – Christie's certified project managers oversee the details of the entire installation to ensure it remains on budget and without worry for a seamless transition from concept to completion and customer operation.

Application engineers – From the initial site survey to final installation, Christie's expert field application engineers will ensure that your system is installed and integrated quickly and efficiently, and is 100% operational.

Training – You and your staff will receive training and support for your new system.

Global service and support – Technical support - with offices all over the world, we provide a customer-centric approach to providing technical support services.

Christie at a glance

A world leader in visual solutions for world-class organizations.

Christie is a global visual technologies company offering diverse visual display solutions for business, entertainment, and industry. With expertise in film projection since 1929 and professional projection systems since 1979, we've established a reputation as the world's single source manufacturer of variety of display technologies and solutions for cinema, large audience environments, control rooms, business presentations, training facilities, 3D and virtual reality, simulation, education, media and government.

As a market leader, Christie has installed over 100,000 projection solutions worldwide. Whatever the application, our solutions are purpose-built to meet unique projection requirements, encompassing image processing to the visual display to managing the content. And we back our solutions with industry-leading service and support ensuring complete customer satisfaction.

Experienced – Founded in 1929, more than 80 years in the display industry

Innovative – Over 30 “firsts” and many more patents

Capable – 1500 staff in 16 countries, with expertise in all disciplines

Reliable – World class ISO 9001/14001 manufacturing facilities

Holistic – Recognized with the inaugural Green AV award in 2010

Stable – Part of a \$1.5B company with balanced portfolio

Our Customers

- Airbus Industries
- Ball Aerospace & Technologies Corp.
- Boeing
- BP Aberdeen
- BP Gulf of Mexico
- Canadian Maritime Helicopter Program (CMHP)
- Carlton University
- Caterpillar
- China Petroleum and Chemical (Petrochemical) Corporation
- CSC
- Discovery World “HIVE”
- Fisheries & Marine Institute of Memorial University of Newfoundland
- Flight Safety International
- HMS Collingwood (UK)
- Intuitive Surgical, Inc.
- Lockheed Martin
- Marathon Oil
- NASA Goddard Space Center
- National Museum of Maritime Biology and Aquarium (Taiwan, China)
- Nexen
- Pennsylvania State University
- RAF (Royal Air Force) Leuchars (UK)
- RAF Shawbury
- Royal Saudi Air Force
- Scripps Institute for Oceanography
- SimJET Training Systems
- South Australian Virtual Reality Centre (SAVRC)
- US Air Education and Training Command (AETC)
- US Air Force
- US Air National Guard
- US Army
- Weil Cornell Medical College

Corporate offices

Christie Digital Systems USA, Inc.
USA – Cypress
ph: 714 236 8610

Christie Digital Systems Canada Inc.
Canada – Kitchener
ph: 519 744 8005

Independent sales consultant offices

Italy
ph: +39 (0) 2 9902 1161

Worldwide offices

United Kingdom
ph: +44 (0) 118 977 8000

Germany
ph: +49 2161 664540

France
ph: +33 (0) 1 41 21 44 04

Spain
ph: +34 91 633 9990

Eastern Europe and
Russian Federation
ph: +36 (0) 1 47 48 100

Republic of South Africa
ph: +27 (0)11 510 0094

United Arab Emirates
ph: +971 4 3206688

India
ph: +91 80 6708 9999

Singapore
ph: +65 6877 8737

China (Shanghai)
ph: +86 21 6278 7708

China (Beijing)
ph: +86 10 6561 0240

Japan (Tokyo)
ph: 81 3 3599 7481

Korea (Seoul)
ph: +82 2 702 1601



ISO 9001
ISO 14001

Kitchener, Ontario



For the most current specification information, please visit www.christiedigital.com



Copyright 2012 Christie Digital Systems USA, Inc. All rights reserved. All brand names and product names are trademarks, registered trademarks or tradenames of their respective holders. Christie Digital Systems Canada Inc.'s management system is registered to ISO 9001 and ISO 14001. Performance specifications are typical. Due to constant research, specifications are subject to change without notice. Printed in Canada on recycled paper. 3366 Nov 12

CHRISTIE®