

SOLUTIONS FOR VR & SIMULATION

PERFECT VISUAL SOLUTIONS



PERFECT SOLUTIONS FOR SOPHISTICATED APPLICATIONS INNOVATIONS “MADE IN GERMANY”.



A new dimension of virtual reality and simulation – perfect visual display technology from eyevis. The realistic representation of computer-generated objects and environments is primarily used for the training of pilots, drivers, operators and task forces, but also for the evaluation of three-dimensional generated prototypes, 3D models, and architectures. VR and simulation systems provide an alternative for real training which saves money and avoids unnecessary risks, but the requirements on the technology in use are very high.

The perception of our environment is mainly based on our vision. This also explains the importance of the visual display system in facilities for training, research or virtual reality. The quality of image representation ultimately determines the success of the simulation. Only nearly realistic renderings of the environment enable training results or research results that can be transferred in the real world.

Various professional solutions and years of experience in the implementation of visualisation systems make eyevis an excellent partner for the implementation of high-quality visual display systems in simulation and virtual reality. With our DLP projec-

tors with LED projection technology, the versatile omniSHAPES, the proven rear-projection cubes and a wide range of professional LCD monitors, we offer a variety of different visualisation technologies for 2D display and different 3D approaches. If there is an additional requirement for the correction of geometry, blending, colour and brightness of the input image signals, eyevis openWARP² technology is the ideal solution.

Due to its outstanding image quality, robust workmanship “made in Germany” and durability, our products are a top choice for simulators and VR environments. Here, our systems not only create excellent images for a realistic perception, but also provide high reliability, calculable operating costs and long maintenance intervals.

To meet the requirements of each individual project, we also offer a comprehensive range of accessories for signal transmission and distribution. Our experienced engineers are happy to work with you on the technical and mechanical details of your desired application. Thanks to our extensive know-how, our proprietary development and production facilities we can also offer specially customised solutions.

PRODUCTS AND SOLUTIONS FOR

SIMULATION
(DRIVING -, SHIP-, TANK- AND
FLIGHT-SIMULATORS)



DESIGN
(AUTOMOTIVE,
ARCHITECTURE, CAD)



SCIENCE AND RESEARCH



TRAINING AND EDUCATION



MILITARY



OPERATING WORLDWIDE MISSION CUSTOMERS WHO PUT THEIR TRUST IN EYEVIS TECHNOLOGY.



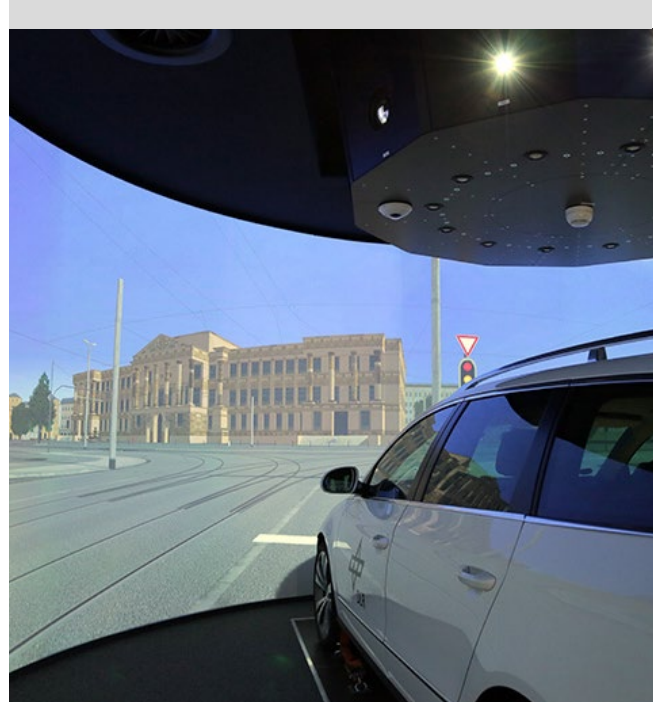
LUFTHANSA FLIGHT TRAINING, BOEING 747-400-SIMULATOR

Lufthansa Flight Training GmbH (LFT) belongs to the leading providers of training of pilots and flight attendants in Europe. At the LFT headquarters alone, 20 flight simulators of different airplane types are in operation. Within the scope of a long-term test LFT now equipped the visual system of one of the Boeing 747-400 simulators with new DLP® projectors of type ESP-LHD-1000 from eyevis.

Inside the simulator, three projectors illuminate the rear projection area and in this way create an outer view of 150°x40°. Through the internal automatic colour control and a special hardware-blending, no differences or transitions between the three channels are visible. With 10 fL (foot Lambert) brightness for daytime simulations and 0.003 fL for night-time simulations, the projection system not only meets the requirements of the German FAA, but exceeds them due to higher brightness during daytime simulations and a lower black value for night vision. This guarantees a more realistic image impression and in this way increases the quality of the simulation.

Equipment used:

- 3x DLP® projectors with Full-HD resolution and LED illumination (Type ESP-LHD-1000)



DRIVING SIMULATOR AT THE GERMAN AEROSPACE CENTER (DLR) IN BRAUNSCHWEIG, GERMANY

The DLR-Institute for traffic management and vehicle control at the research airport Braunschweig operates an interactive driving simulator that with its performance and dimensions belongs to the largest and most powerful simulation systems of its kind worldwide. The unique version of the motion platform as inverted hexapod allows for completely new methods of movement simulation.

Since a modernisation of the visual display system, a 14 channel solution with eyevis SXGA+ LED projectors (ESP-LXT+) provides a perfect perception of the environment. In this way the system not only benefits from a considerably higher resolution, but also from many other advantages of LED projectors. Our partner domeprojection.com, who also carried out the installation, provided their camera based auto alignment solution that allows for a simple and fast installation and recalibration of the system. Since the visual system, due to the motion platform, is constantly exposed to high mechanical forces, the demand for stability of the projectors is high. The eyevis ESP series meets these requirements and represents the optimal solution for demanding applications.

Equipment used:

- 14x DLP® projectors with SXGA+ resolution and LED illumination (Type ESP-LSXT+)



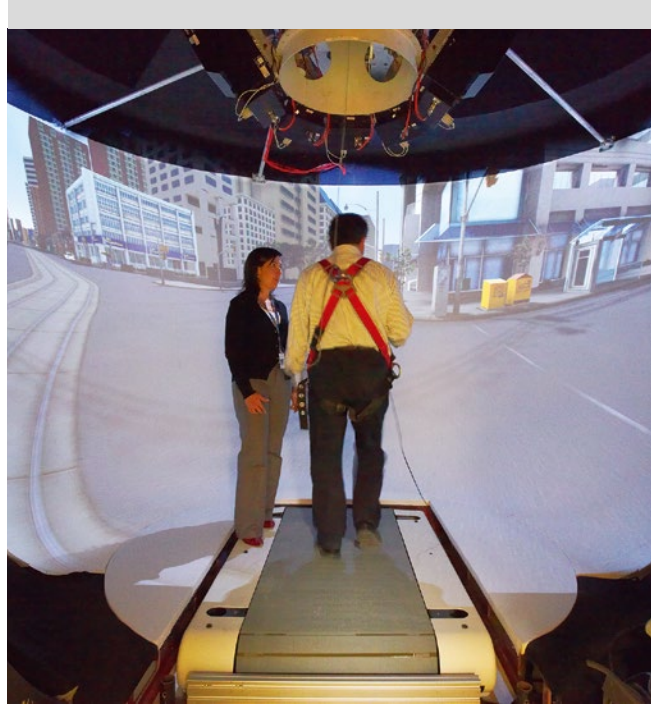
SKYGUIDE TOWER SIMULATOR IN DÜBENDORF, SWITZERLAND

Antycip Simulation has collaborated with eyevis to upgrade and modernize the “TOSIM Blue” tower simulator of skyguide Training Centers (STC) in Dübendorf near Zurich. Fourteen new eyevis LED projectors now provide improved training simulation experience at the STC tower simulator with higher resolution, more detailed colour representation and better brightness.

Antycip Simulation worked with eyevis in the integration of the system as the previous projector solution had reached the end of its life-cycle. The latest improvements guarantee enhanced simulation quality and better resolution which benefits the tower flight controllers who train at the STC. On a floor area of 950 sqm the highly modern simulation facility includes twenty-four workplaces in radar simulators, two smaller basic simulators and two more tower simulators that use an identical setup of eyevis projectors. Using the detailed simulations flight controllers, trainees are provided with the ability to practice and refresh their skills, knowledge and abilities in realistic surroundings. They may even be trained for certification or re-certification.

Equipment used:

- 14x DLP® projectors with WUXGA+ resolution and Cluster-LED illumination (Type ESP-LWXT-1000)



IDAPT REHABILITATION INSTITUTE TORONTO, CANADA

The Institute for Rehabilitation of the University Health Network is home to some of the world’s most advanced facilities and equipment for research and testing of therapeutic procedures and appliances. In various realistic simulators here technologies and methods can be developed which then help patients in rehabilitation or in dealing with permanent physical disabilities to cope with their environment. In various state-of-the-art simulators and virtual environments the students and patients get, for example a realistic impression of walking on ice or of everyday movements at home or while shopping.

To optimize the success of training and research an as real as possible representation of the environment in all its aspects is required. The eyevis projectors from the espSERIES meet any requirements according to image quality and sharpness. For the creation of a uniform openWARP² image processing units perform the appropriate image correction in the multi-projection systems.

Equipment used:

- 6x DLP® projectors with WUXGA+ resolution and LED illumination (Type ESP-LWXT)
- 6x openWARP² image correction processors for blending and geometry adjustment

GOODBYE FICTION PERFECT SOLUTIONS FOR UNBELIEVABLY REALISTIC SIMULATIONS.

HIGH-END VISUAL DISPLAY SYSTEMS FOR SUCCESSFUL TRAININGS AND SIMULATIONS

In a variety of areas, such as in aviation or in military training, where training and education with real objects is not only extremely expensive, but can also be dangerous to a certain extent, the creation of virtual training environments becomes increasingly relevant. Also in research, product planning or architecture they rely on computer-generated simulation scenarios, before the results are put into action.

Here, depending on the requirements and application diverse types of simulations are used, but they all have a core visual display system in common. The extended use of the systems as multifunctional workplaces is now just as important as the multimedia presentation of research results and modelling studies. eyevis provides you with the perfect technical devices in order to upgrade your present system or to build a completely new one, according to your wishes and needs.



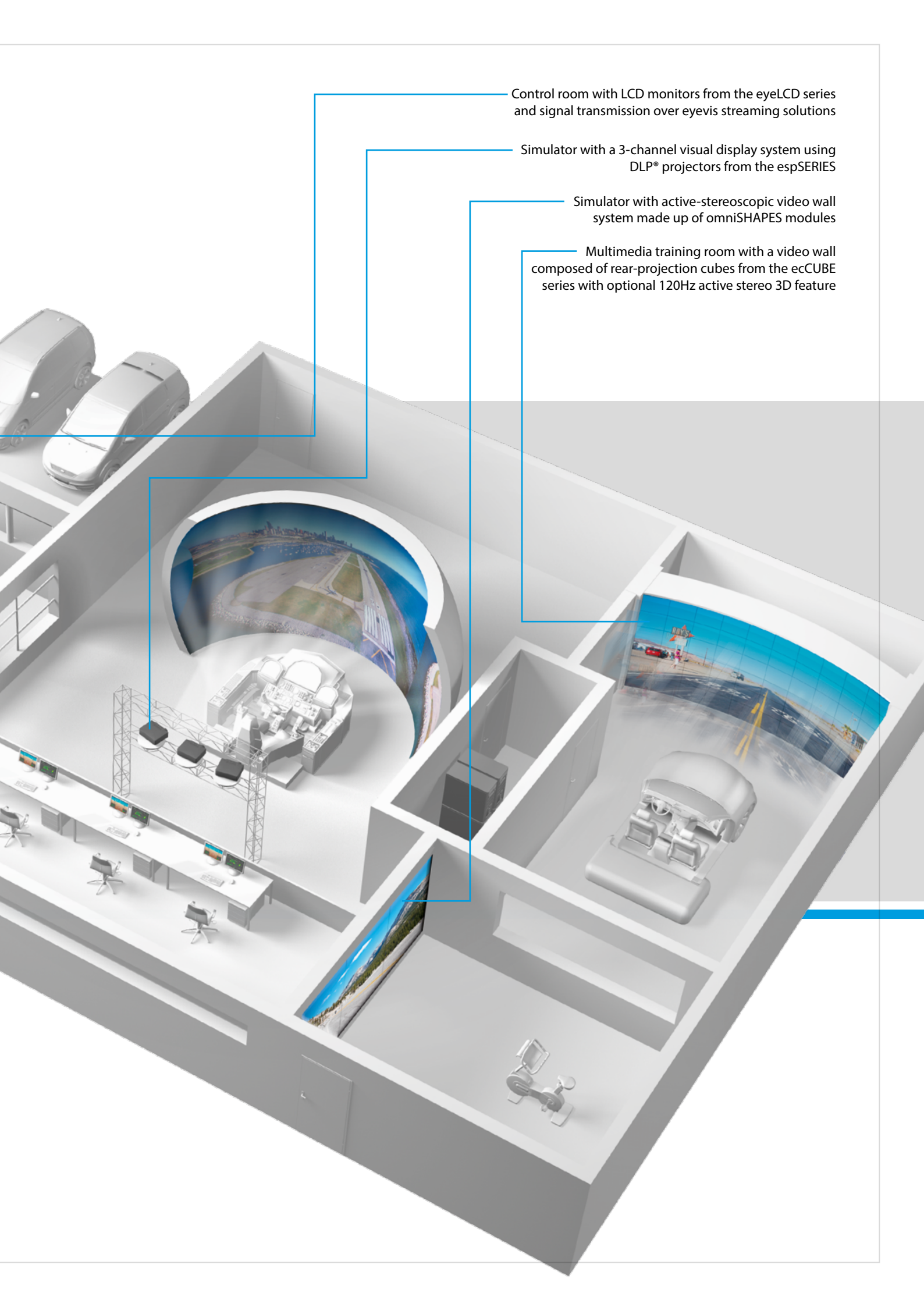
OUR PRODUCTS IN USE

) **omniSHAPES**
EYEVIS MICROLINE

) **eyeLCD**
EYEVIS LCD LINE

) **espSERIES**
EYEVIS PROJECTOR LINE

) **ecCUBE®**
EYEVIS REAR PROJECTION LINE



Control room with LCD monitors from the eyeLCD series and signal transmission over eyevis streaming solutions

Simulator with a 3-channel visual display system using DLP® projectors from the espSERIES

Simulator with active-stereoscopic video wall system made up of omniSHAPES modules

Multimedia training room with a video wall composed of rear-projection cubes from the ecCUBE series with optional 120Hz active stereo 3D feature

PERFECT INTERPLAY VISUAL DISPLAY SYSTEMS FOR DEMANDING INSTALLATIONS.



PROFESSIONAL DLP® PROJECTORS FROM THE espSERIES

eyevis stand-alone projectors are well known for their reliability, robustness and image quality. The projectors were especially developed for sophisticated use in simulation systems. The projectors are available with five different display resolutions: XGA (1024×768px), SXGA+ (1400×1050px), Full HD (1920×1080px), UXGA (1600×1200px), WUXGA (1920×1200px) and WQXGA (2560×1600px). A comprehensive range of available optics further enlarges the fields of application of our projectors. According to the required throw distance, the geometry and the size of the projected image, there is a choice from different optics to achieve a perfect result.

The projectors use cluster-LED technology as light source which guarantees a high light output, excellent image quality and outstanding robustness for long-term stable colours and brightness behaviour. As an option there is the eyevis Auto-Colour-Tracking (ACT) system available, which continuously measures the values coming from the projectors in a multi-channel installation and automatically matches these to a common setting. All components of the projectors were chosen for their readiness to be used in professional long-term operation and have proven their reliability in thousands of applications world-wide. The rugged design of the projectors with its metal housing allows their usage in high-vibration environments and in motion-based simulations.

With several optional expansions, the projectors can be upgraded for applications in stereo-projections, night-vision simulations, and optimised use in multi-channel applications. The comfortable software tools allow simple and accurate calibration of systems using more than one projector.



omniSHAPES – OUR FLEXIBLE ALL-ROUNDERS

Ingeniously simple, simply ingenious – that's the principle of our flexible to use rear-projection display units which can be used to create video walls of versatile configurations and shapes. In addition to the diverse available screen shapes there is also the possibility to define customised shapes and special mechanic components for the installation. omniSHAPES can even be assembled in curved arrangements, both convex and concave. Also digital display floors have already been realised with our multi-functional display units.

Digital images of the highest quality and reliability can be guaranteed through the use of DLP® technology with an LED light source for the projector. The flexible and user-friendly building block design of the omniSHAPES comprising a robust base frame unit, the projector, and the screen, allow for their simple installation and trouble-free maintenance.

Regardless the configuration, the connections for signal and control can simply be daisy-chained from one module to the other. The internal image processing ensures that every omniSHAPE in the chain shows the correct part of the overall image signal according to its position in the configuration. The adjustment and assignment of the signal sources as well as the settings for various additional parameters can easily be achieved through the intuitive eyeDesign software.

The latest generation of our omniSHAPES is optionally available with 120 Hz technology which enables the display of three-dimensional images in combination with active shutter glasses.



THE REAR-PROJECTION CUBES FROM THE ecCUBE SERIES

eyevis cubes are a well-established alternative to front and rear projection on screens for the implementation of bezel-free video walls in simulation environments. The DLP® cubes from the ecCUBE series offer an almost bezel-free design, robust workmanship and in particular permanently high image quality thanks to LED projection technology. The devices are available in a wide variety of sizes and resolutions. The cubes can be assembled to video walls of any size. Apart from straight assemblies, curved and angled installations are possible, as well. Depending on the intended usage, different types of screens can be used to guarantee best image quality from every viewing point.

The latest generation of our LED cubes deploys innovative cluster LEDs for illumination. Apart from higher brightness, they also stand out due to their higher failure safety and lower energy consumption.

For the display of three-dimensional image content via active stereo projection, selected models can also be delivered with 120-Hz imaging. The wide viewing angle allows several people at once to fully enjoy flicker-free 3D displays. The 3D cubes are also suitable for VR simulators in the field of training or research as well as for showrooms or immersive CAD workplaces. Since they also require very little space, emit little heat and noise and were built to allow for modular extension, the 3D cubes open up entirely new opportunities for the design of high-quality and flexible VR systems.

The cubes from the EC Slim series are a particular version of the ecCUBES. Their small footprint design was specifically developed for the application in areas, where the regularly built rear-projection cubes, which require more space, are not suitable due to spatial restrictions. Thanks to nominal installation depths down to 432 mm, these cubes enable professional installations in the smallest spaces. Slim and easy to service – these features make the Slim series a first choice for the assembly of video walls in a wide variety of different applications.



THE LCD MONITORS FROM THE eyeLCD SERIES

With its eyeLCD series, eyevis offers a comprehensive product range of professional monitors for the most various applications in the area of presentation and information. The single displays we offer are professional LCD monitors with a screen diagonal of up to 98 inches and a resolution up to 4K/Ultra HD with 3,840x2,160 pixels.

The bezel-free LCD monitors are perfect for applications in video walls. Thanks to their narrow frame width, assembling the displays will only lead to hardly visible bezels of just a few millimeters between the individual screens. Moreover, the robust product design and the internal matrix function simplify the assembling of a video wall, whether in a temporary or permanent installation.

For specialist applications, the eyeLCD series offers devices, which can be operated 24/7, guaranteed without any image retention effects. Devices to be installed in challenging environments, such as in a protected outside area, are also available. In order to guarantee optimum image quality even in the brightest light conditions, different LCD monitors with High Brightness Panels top off the eyevis product range. Thanks to an extremely bright image display, clear visibility of the content is guaranteed even under direct sunlight.

The monitors of the eyeLCD series can be upgraded with a great variety of optional features and accessories. All single monitors are offered with individual colouring of the housing. High-quality touch-screens, capable of up to 32 simultaneous points of contacts, are also available for all displays and video walls. Moreover, thanks to an OPS standard slot, most displays can be fitted with OPS-PCs or additional input options such as HDBaseT or 3G-SDI. Due to eyevis' EPU-Wall concept, monitors with appropriately configured OPS-PCs can then simply be integrated in networks with an IP-based distribution of signal and control.

As a provider of holistic solutions, the eyevis portfolio always offers the right solution for the integration and installation of all of our products. A comprehensive range of accessories is also available, such as signal splitters, cable sections or split controllers, as well as various mounting solutions for single displays and video walls. If the perfect solution for your application is not included in our standard portfolio, you can also trust in our longstanding experience and expertise on the implementation of client-specific specialist solutions.

WORKING WORLDWIDE CUSTOMERS WHO TRUST IN EYEVIS TECHNOLOGY.



A SMALL SELECTION OF FURTHERS CUSTOMERS WITH KNOW-HOW FROM EYEVIS

- **Airbus Defence & Space, Train Simulator – Milan, Italy**
7× 55-inch Video Wall LCD (EYE-LCD-5500-M-USN-LD)
- **BAE Systems, Fighter Trainer – Warton, Great Britain**
3× 58-inch Ultra-HD LCD (EYE-LCD-5800-QHD), 5× 60-inch Ultra-HD LCD (EYE-LCD-6000-QHD-LD-V2),
3× 85-inch Ultra-HD LCD (EYE-LCD-8500-QHD-LD), 8× High-End Video Wall Controller (netPIX 4900Plus),
8× Video Wall Management Software (eyeCON V5 Lite)
- **Electric Picture Display Systems, US Navy Ship's Bridge Simulation – Melbourne, USA**
12× LED-lit WQXGA DLP® Projector with Hard-Edge Blending Mask (ESP-LWQX-1000)
- **German Aerospace Centre (DLR), 360° Air Traffic Control Simulator – Braunschweig, Germany**
18× LED-lit WUXGA DLP® Projector (ESP-LWXT)
- **German Aerospace Centre (DLR), 360° Virtual Reality Driving Lab Immersive Projection – Braunschweig, Germany**
12× LED-lit WUXGA DLP® Projector (ESP-LWXT-1000)
- **German Aerospace Centre (DLR), Helicopter-Simulator – Braunschweig, Germany**
14× LED-lit WUXGA DLP® Projector (ESP-LWXT)



- Lockheed Martin Commercial Flight Training, Aeromexico Boeing 777 Full Flight Simulator – Mexico-City, Mexico
3× LED-lit WUXGA DLP® Projector with Hard-Edge Blending Mask (ESP-LWXT-1000)
- Lufthansa Flight Training, A350 Full Flight Simulator – Frankfurt, Germany
7× LED-lit Full-HD DLP® Projector with Hard-Edge Blending Mask (ESP-LHD-1000)
- Maersk Drilling Systems Training Center MOSAIC II – Svendborg, Denmark
8× LED-lit WUXGA DLP® Projector (ESP-LWXT)
- Skyguide Tower Simulator „TOSIM Green“ – Dübendorf, Switzerland
17× Full-HD LED DLP® Projector (ESP-LHD-1000), 17× Single-Channel Warping Unit (openWARP2-LC)
- Toronto Rehabilitation Institute, DriverLab – Toronto, Canada
12× LED-lit WUXGA DLP® Projector with Hard-Edge Blending Mask (ESP-LWXT-1000)
- University of New South Wales Art & Design, 3D CAVE – Sydney, Australia
56× 60-inch DLP® Slim Rear-Projection Cube with 120 Hz Active Stereo 3D Option (EC-60-LHD-SLIM)



EYEVIS MAIN OFFICE

- Germany – Reutlingen

PRODUCTION LOCATION

- Germany – Reutlingen

EYEVIS OFFICES INTERNATIONAL

- Germany – Reutlingen
- France – Paris/Saint-Affrique
- Great Britain – Burnley
- Italy – Rome
- South Korea – Seoul
- United Arab Emirates – Abu Dhabi

DISTRIBUTION PARTNERS

- Africa
- Australia
- China
- Europe
- Japan
- Latin America
- USA

Updated information on our projects and products with many photos as well as the possibility of communicating with other interested customers can also be found at:

- twitter.com/eyevis
- www.facebook.com/eyevis
- www.linkedin.com/companies/eyevis



Scan the QR code and visit our website to find more detailed information on all of our products and services, download brochures and data sheets, or watch the product videos.

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