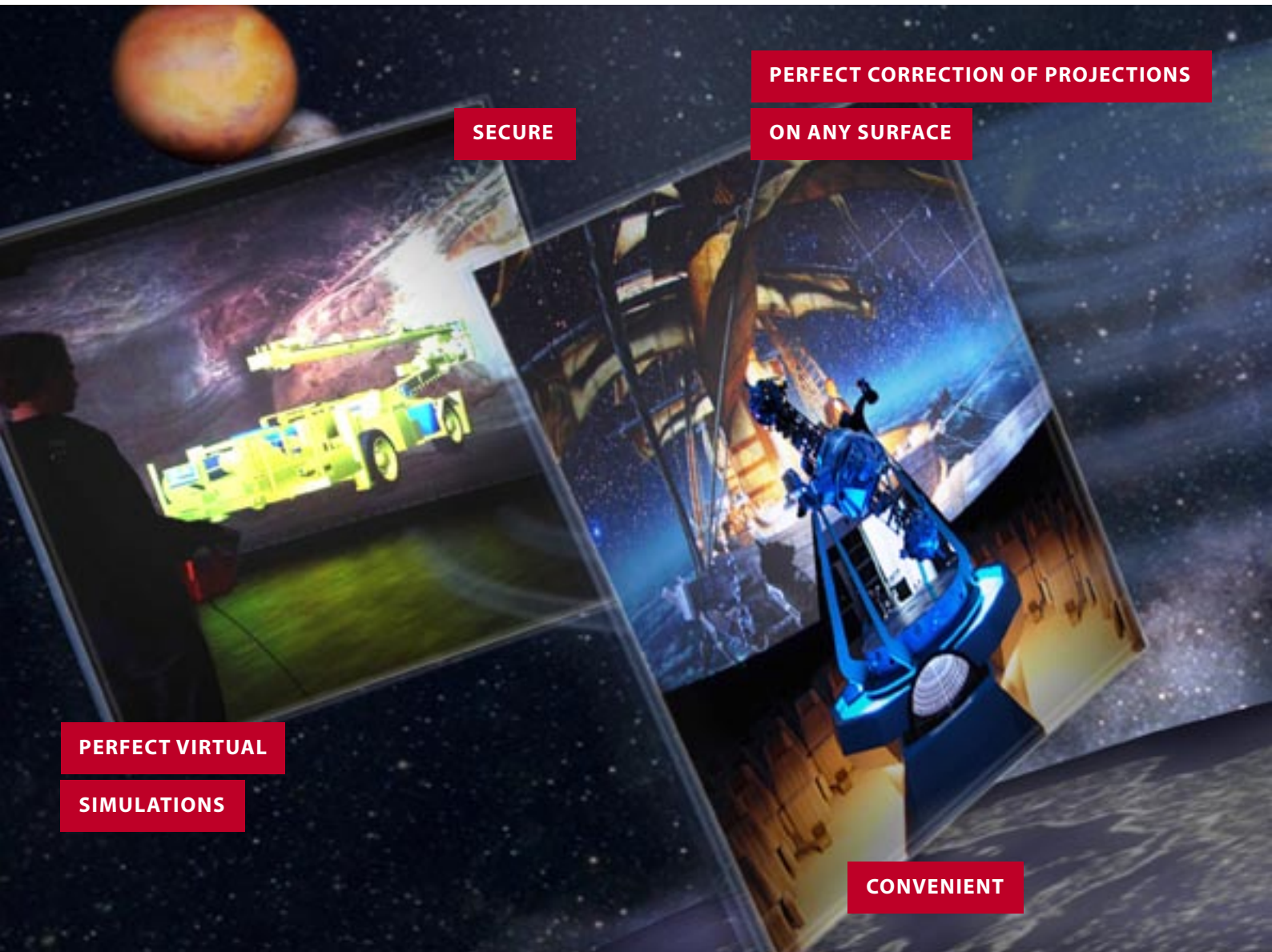




Only a small step away from reality

# WELCOME TO THE FUTURE OF VIRTUAL REALITY



SECURE

PERFECT CORRECTION OF PROJECTIONS

ON ANY SURFACE

PERFECT VIRTUAL

SIMULATIONS

CONVENIENT

It has never been easier more reasonable and convenient to present a professionally projected Virtual Reality in such an amazing quality.

**In professional fields of work** like the security sector, for example the increasingly complex air traffic management, or in the military, it is very important but at the same time highly expensive and hard to train certain scenarios, especially when it comes to the dangerous trainings of emergency situations. But with the help of eyevis' open-WARP Technology, the new VR systems allow the simulation of such situations in an easier, better and cost-efficient way.

**The advanced usage of VR systems** as a multifunctional work station has been coming to the fore like the multidimensional presentation of results of research or model 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.





EASY

PERFECT MULTI-CHANNEL

PROJECTIONS

REASONABLE

# In a perfect Virtual Reality environment, you will forget that it is virtual.

**openWARP<sup>2</sup> is the second generation** of our professional eyevis technology for warping, blending and color-correcting. Any visual content can be projected in various ways on random surfaces with the help of eyevis projectors. It does not matter whether the area projected on is flat, bent or even wavy – the projection will be perfect and absolutely sharp as if the surface was flat. The system corrects the projection for a perfect picture in high resolution and in real time.

**The extremely quick image processing** of openWARP<sup>2</sup> is predestinated for the usage in delicate, high quality and time-critical simulation systems. A completely new and revised system architecture and an even more efficient Warp-Core technology allow the highest image correction. It is absolutely unproblematic to include it in any existing installation of that kind. Comprehensive methods of color- and brightness-correction, color-shading, alpha masks pixel blending complement this system and make it the perfect tool in order to realize multi-channel-projections.

**openWARP<sup>2</sup> is the only device** on the market which allows up-loading and realizing geometrical corrections inside of the frame in real-time. This makes the built-up of powerful, effective and interactive simulations with tracking systems possible.



## Working together perfectly: openWARP<sup>2</sup> and the high performance projectors from eyevis' ESP-series

Based on the technology of the EC Cube series by eyevis, the projectors have been famous due to their excellent image quality and tough built-up for years. They are available with convenient UHP projector lamps or the new LED technology. All parts of the projectors are made for continuous operation.

Their solid metal frame and numerous optional additional tools make the eyevis ESP projectors your first choice for Virtual Reality with openWARP<sup>2</sup>.

**It is now possible** to get a reasonable system for multi-media presentations, video application and Virtual Reality – the possibilities are endless, thanks to openWARP<sup>2</sup>.

# openWARP<sup>2</sup> and ESP-Series at a glance

## ) openWARP<sup>2</sup> IMAGE CORRECTION



- ) Comfortable image correction.
- ) The completely new designed system architecture and the new powerful warp-core technology enable high-quality image corrections.
- ) Thanks to the innovative "Resolution pass-through Technology", the device can be easily integrated into any system environment without the necessity to configure the desired resolution.
- ) Geometry correction for projection on any shape or surface.
- ) The openWARP alignment tools feature a toolset for calibration of single- or multi-channel display systems, whose projection channels need geometry correction due to screen shape or projector placement.
- ) Curved, bended or spherical screens and anything in between – in real time.
- ) The toolset uses a camera-based approach to achieve calibration of geometry.
- ) n-channel projection.
- ) Improvement of single projectors, stereo projections or combined multi-channel projections
- ) Cost-effective pay-per-channel solution.
- ) The customer only pays for the number of channels he really needs at a competitive price.
- ) The openWARP<sup>2</sup> designer software provides an easy-to-use GUI which enables comfortable configuration of warping, blending and color correction for one or multiple channels.
- ) The designer can run on an external PC or on the additional openWARP communication board.
- ) Once the calibration is done, the settings can either be stored on the external PC or on the communication Board.
- ) much more flexible solution compared with solutions embedded in projectors or image generators.geometry. openWARP<sup>2</sup>-LC
- ) Usable in combination with any projection device on the market.

## ) TECHNICAL SPECIFICATIONS openWARP<sup>2</sup>

- ) Single channel DVI Warping and Blending Unit
- ) Input / Output: single-Link DVI-D for Resolutions up to WUXGA (1920x1200@60Hz) or 2k (2048x1200@60Hz)
- ) Resolution pass-through Technology (automatic resolution configuration)
- ) Bandwidth: max: 165MHz pixel clock
- ) Communication:
  - USB-RS232 to control PC
  - RS232 / LAN with additional communication board
- ) Low latency (less than 1/4 frame)
- ) Gamma correction, colour transformation and Colour shading
- ) Unrestricted blending and alpha-masking
- ) High precision geometry correction (2 times 5th order polynomial)
- ) Advanced filter kernel for high quality image processing
- ) Interactive and real-time image warping
- ) Weight: 1.25 kgs
- ) Dimensions (LxWxH): 25.4 x 21.0 x 7.0 cm

## ) ESP PROJECTORS



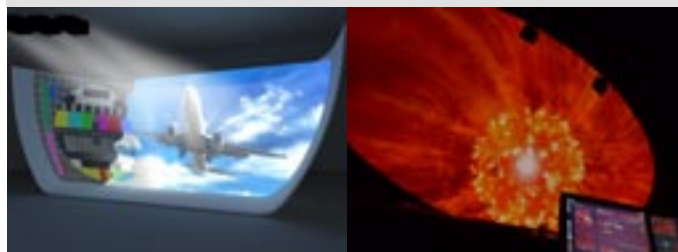
- ) Available with two different light sources: conventional UHP projector lamps or new LED Technology.
- ) All components developed for use in continuous operation.
- ) Robust metal housing for use in high vibration environments and in motion simulators.
- ) Upgradeable with optional extensions for use in stereo projections, for nightvision simulations and for use in multichannel systems.

## ) TECHNICAL SPECIFICATIONS ESP

- ) Technology: Single Chip DLP™ Projector
- ) Resolution: XGA (1024x768) / SXGA+ (1400 x 1050) / full HD (1920x1080) / WUXGA (1920x1200)
- ) Color wheel options: - RGBW (Graphics / Presentations)  
- RGBRGB (Visualisation and Simulation)  
- With LED no Color wheel
- ) Brightness: UHP: 1500 bis 2500 ANSI Lumens  
LED: 500 - 700 ANSI Lumens
- ) Contrast: 1500 bis 2500:1 (depending on projector version)
- ) Latency: 1/2 Frame (8,5ms)
- ) Optics: Fixed focal length 1.7:1 / 1.5:1 / 1.2:1 / 1.1:1 / 0.8:1 / 0.6:1 (depending on resolution)
- ) Lifetime: UHP Lamp: ca. 6000-8000 h  
LED: 60,000 h
- ) Inputs: 1x DVI
- ) Vertical Frequency: 48 - 62 Hz genlock compatible
- ) Thermal Load: 180 - 200 Watt
- ) Power Consumption: 180 W at 110/235 V, depending on version
- ) Optional: UHP: • Automatic brightness control  
• Dim-light (motorized neutral density light filter for night vision / dark scene projection)  
• INFITEC Stereo  
LED: - ACT (Auto-Color-Tracking)

## ) AREAS OF APPLICATION

- ) Training and Simulation
- ) Virtual and Augmented Reality
- ) Entertainment
- ) Rental/Staging



## ) KONTAKT



**eyevis GmbH**  
Hundschleestraße 29  
72766 Reutlingen  
Germany

Phone: +49 (0) 7121 43303-0  
Fax: +49 (0) 7121 43303-22  
Web: [www.eyevis.de](http://www.eyevis.de)  
E-Mail: [info@eyevis.de](mailto:info@eyevis.de)

**eyevis**  
PERFECT VISUAL SOLUTIONS