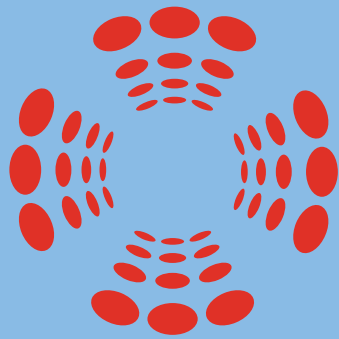




CYVRIZ



clusterwall

Cyviz Clusterwall – a superior high resolution display wall for professionals who can not compromise on quality



The Cyviz Clusterwall is designed to meet the highest requirements for a custom made, seamless display wall with very high resolution. The photorealistic, crisp and clear image draw attention from a number of industries and application areas:

- The large dimensions and fine detail in the image makes it a winner with automotive and aerospace designers, and enable manufacturers to improve decision making and shorten time to production.
- Oil & Gas increasingly see a need for handling and displaying more data, and with the Clusterwall you can even run heavy seismic data sets from a single desktop.
- Defence and other players looking to move away from cube systems to cover their needs for control rooms and surveillance.
- Universities realize great value from more collaborative work, particularly in the areas of Life Science.

What makes the image provided by the Cyviz Clusterwall stand out from the competition?

The governing principle at Cyviz is to strive for simplicity, promoting lossless image transmission from source to the eye, thus eliminating the need for manipulation of the signals (warping). This philosophy, together with iterative testing and new developments, has enabled us to deliver what we believe to be the very best display wall in the market today. In the following we deal with some of the key elements necessary to achieve the best high performance.

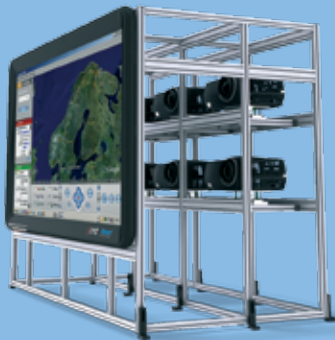
- Precise alignment. A durable, stable alignment is the foundation for operational excellence. Cyviz has delivered numerous larger installations with its rigid, well tested aluminium rig. We have also engineered a special projector alignment unit (PAU) to the highest mechanical standards, providing 6 degrees of freedom in adjusting the wall.
- Edge blending. Cyviz has developed its own, multi-sided digital blending, called xêd. The blending cards are embedded in the projectors, are hardware programmable and as such the strengths of the projector platforms will be fully utilised. The blending algorithm calculates each pixel from each projector in the 4x overlap area and provide optimal blending curves across all channels leveraging the intensity transfer characteristics of each projector as well as each projectors impact on the totality.
- Colour uniformity. Possible differences in colour representation stem from tolerances of colour filters inside the projector. Instead of compensating digitally for these differences - which would lead to a light loss and reduction in colour dynamics in the projected image - Cyviz attacks the source of the problem and adds a stricter tolerance to the colour filters used. Also, the xêd.f3 in combination with the F3 allows for fine-tuning digital adjustments of gamma, colour and contrast.
- Brightness uniformity. All projectors have a natural brightness and intensity fall-off from the centre to the corners of the image. Cyviz' unique edge blending technology ensures that there is an overlap in the dimmest regions of the images, delivering an image with a uniform brightness after virtually eliminating any dimmer section.
- World class partners. Rather than trying to do it all, Cyviz cooperate with players that are number one in their field, and develop products with an optimal fit to the Cyviz Clusterwall. This includes avoiding hot-spotting as well as achieving the best contrast and brightness in the image. Durable, 24/7 operations has also been a key criteria.

A truly scalable solution custom made to match your needs and facilities

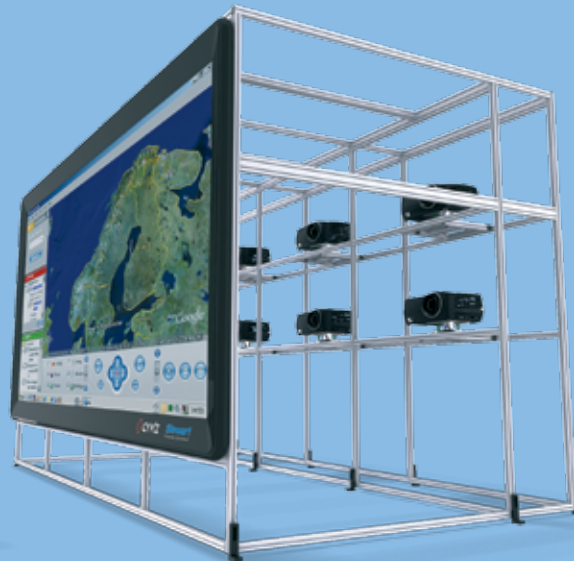
As opposed to cube systems where you are limited by the dimensions of the individual building blocks, there are no limitations in the Clusterwall other than the aspect ratio on each projector.

You can have your required width down to the millimetre, and the number of projectors running the wall is a function of required pixel size, total resolution and budget constraints rather than a necessity to increase image size.

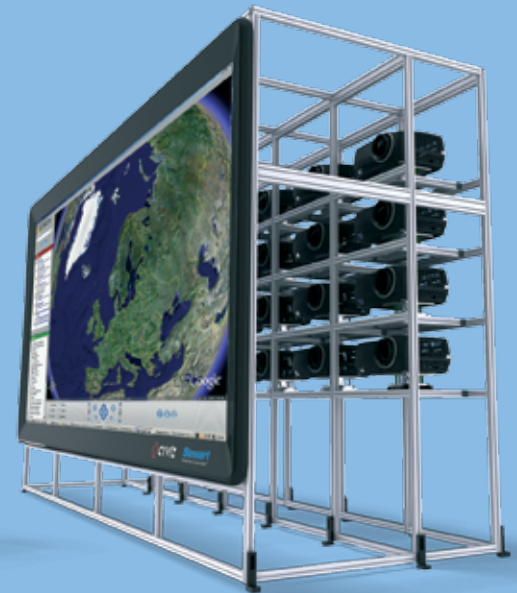
E.g.: Choose a 3x2 projection solution with 4x2m physical size to get a large image, or apply a 6x4 projector solution to the same frame to get both a large image, high resolution, and high pixel density.



Medium size, high resolution



Large size, medium resolution



Large size, high resolution

World class blending with the xêd.f3



Dotted lines show overlap between the six projectors.



The illustration above features an authentic photography of a six channel, 7 mega pixel clusterwall presented at the Real Time Technology Seminar in Salzburg, April 2005. The light was ambient and a regular 3 mega pixel camera was used to take the picture.

Cyviz has worked closely with Projection Design to optimize the features of the F1+/F3 projectors to make them ideal for blending.

The optics has been modified, and special color wheels with stricter specifications have been applied to bring out the best properties of the projector.

The projector characteristics and actual performance have been measured and optimized in highly advanced algorithms to create the best possible blending.

In comparison to old fashioned gamma blending, the Intensity Transfer Function (ITF) blending is not restricted to the subjective adjustments of the person installing the solution.

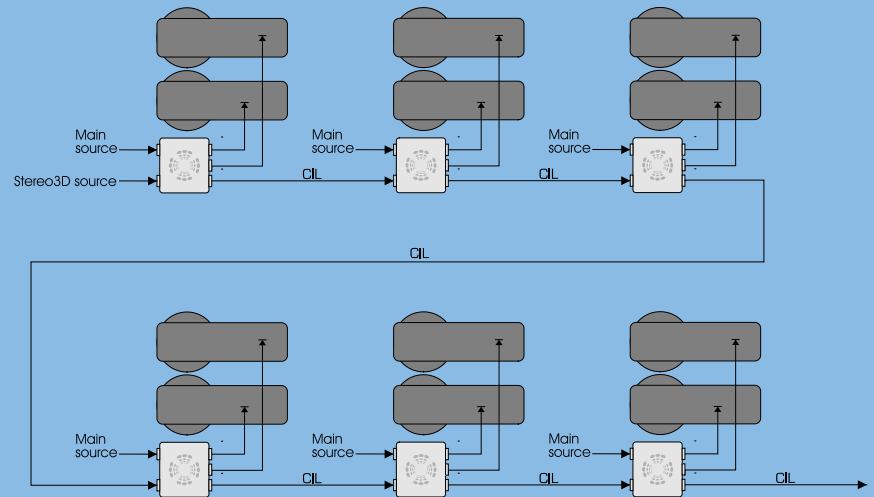
The xêd.F3 blends on all four sides, and the blending is either on or off. The only input you have to give is the number of pixels your projectors physically are aligned to.

ITF simply brings out the best of the projectors capabilities.

Unrivalled source and image handling by xpo.3

The xpo.3 handle inputs up to 9 mega pixels in native resolution combined with unlimited image linking, providing clients with full flexibility in terms of scaling and picture in picture functionality.

- Each xpo.3 has two inputs, one for the main source signal, and one for the Cyviz Image Link (CIL) signal.
- Three outputs provides the stereo signals for each projector, and the CIL signal to the next channel.
- For maximum flexibility, each channel is equipped with an xpo.3 allowing the graphics signal to be distributed across the entire wall.
- Different graphics signals can be overlapped, scaled or moved across all projectors.
- Extra sources can be added to the CIL chain by simply connecting more xpo.3's. This gives the user unlimited Picture-In-Picture functionality and source handling.



When launched in Q1 2006, the xpo.3 will be a highly advanced and versatile source management system.

Projectors and screens

– solid partnerships with world class players



The F3 has been optimized for the Clusterwall in close collaboration between Projectiondesign and Cyviz. The F3 is truly a state of the art, 24/7 projector with excellent optics. Furthermore, it features:

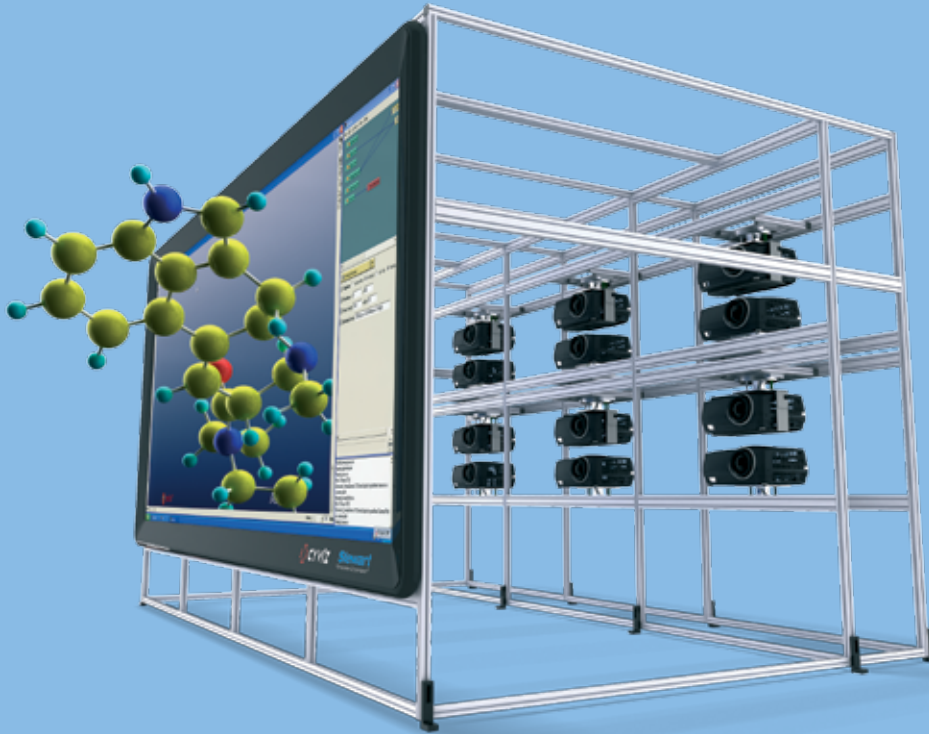
- ANSI lumens: 5,500
- Contrast: 7,500:1
- Resolution: 1,400 x 1,050
- Dual lamp system
- Dual colour wheel
- Adjustable iris and power



Cyziz has a six year long relationship with Stewart Filmscreen, working together at getting the best out of large screen visualization. Cyviz in general recommend a flexible Clusterwall screen. If a rigid surface is a requirement, the Clusterwall is delivered with a glass screen. Key features:

- The screen provides an excellent 180° viewing angle
- High picture quality with no distortion in light distribution
- High stability over time as opposed to acryl which will change with environment and time
- Very low gain thus avoiding hot-spotting
- High tension which neutralize air pressure without impacting the structure

Excellent stereo in ultra high resolution



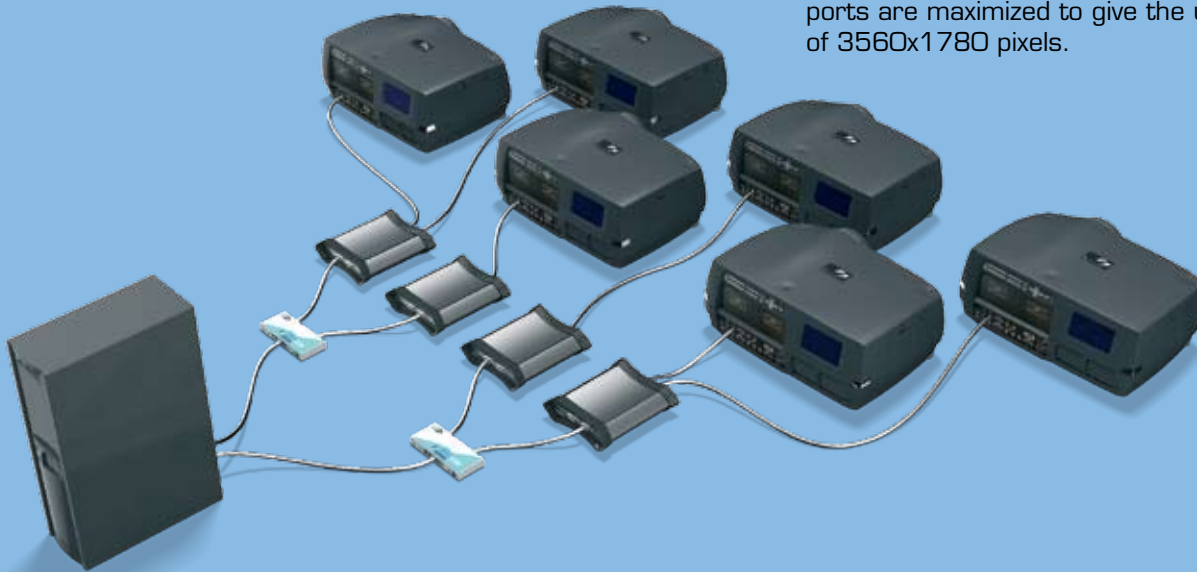
Cyviz has extensive experience with passive stereo and is one of the key players in the world of stereoscopic 3D. Building upon this, Cyviz combine the best of two technologies, allowing our customers to enjoy excellent stereo in ultra high resolution.

- The Clusterwall delivers extremely high brightness, probably the best in the market, enabling work in a regular meeting room environment.
- To obtain the best image separation possible, the Clusterwall is delivered with Infitex technology. Cyviz also perform colour correction to achieve a natural representation.
- Due to motorised filters, the user can easily switch between stereo and mono applications. E.g. you may be working in mono with the exterior of a new car model, and then switch to stereo for the interior.
- With the xpo.3 Cyviz will be the only supplier to handle any type of stereo or mono signals, enabling multiple stereo picture in picture functionality in stereo.

6 projectors from one PC

– your regular monitor supersized

- With Cyviz technology the client can use a single computer to drive six projectors and use it as if it was a regular monitor
- No programs has to be rewritten, any Windows/Linux application will treat the six projectors as a single monitor with A LOT of pixels.
- For the Single desktop solution, Cyviz uses the Nvidia Quadro FX 4400/4500 graphic cards in combination with the Cyviz xêd.DVI's The power of two Dual Link DVI ports are maximized to give the user access to a desktop of 3560x1780 pixels.



Operation Centers – Case example from Oil & Gas



An operation centre enables a unified team of personnel on- and offshore from contractors and service companies to work in real time to support better and faster decision making.

From the outset, stereo 3D solutions in Oil & Gas has been the most important field for Cyviz, and we have worked with numerous clients and partners to develop the right applications for this industry. With the launch of the Clusterwall we experience great interest for control room functionality for operation centres. Typical areas of use include:

- Pull up the relevant real time data that you need for each specific operation in separate windows.
- Have separate windows with video conferencing or CCTV from the rig constantly up and running.
- Pull up your earth model, in stereo if desired, in a separate window and update your model while drilling.
- Resize and move your windows independently over the entire screen in order to have focus on the most important application at any time during your operation.

Content screenshot: Sense Intellifield.



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