

Telkom [South Africa]



Wall of excellence

With its one hundred and twenty meter wide wall Telkom has a bird's eye-view of the network, twenty-four hours a day, seven days a week. For a long time the NNOC wall is going to be the reference point for Barco worldwide and represents a feather in South Africa's cap to have gone from a very low tech to a very high tech base in such a short time.

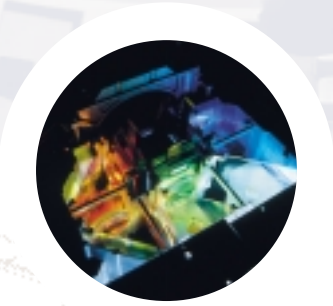
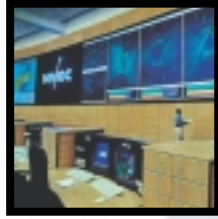
Formed out of the need to have a more centralized control of its operations, the all-new Telkom National Network Operations Centre (NNOC) at Centurion Techno Park is an impressive place. The new Center allows the company to manage and monitor the core international and national network from one centralized control point, for the first time.

It provides real-time contact with all of Telkom's exchanges and network transport elements, such as ATM and SDH. This means that they can detect and correct network problems proactively, greatly speeding up response times and service.

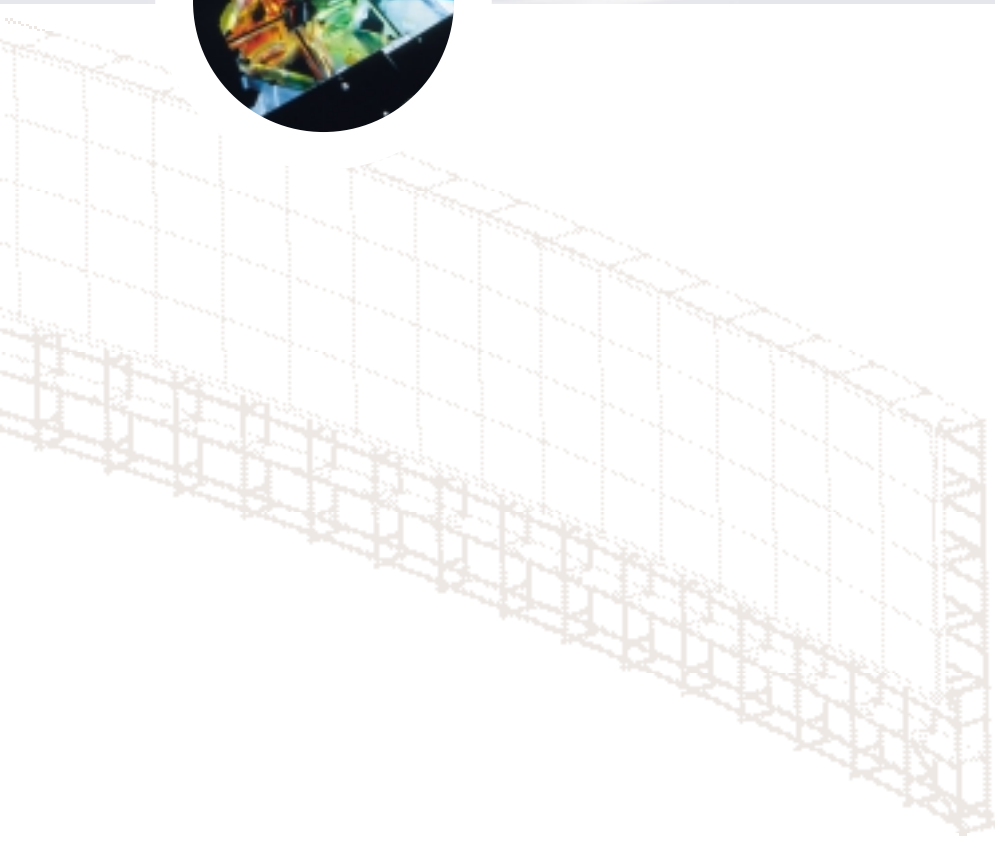
Investing in a monitoring solution for both the NNOC and the Information Technology Center (ITC) represents yet another step for Telkom towards preparing its network for the future. This new NNOC officially began monitoring the network on October 22nd 1999.

BARCO

Visibly yours



Poly-Silicon projection, a technology developed and owned by Barco, produces a bright and impressive image

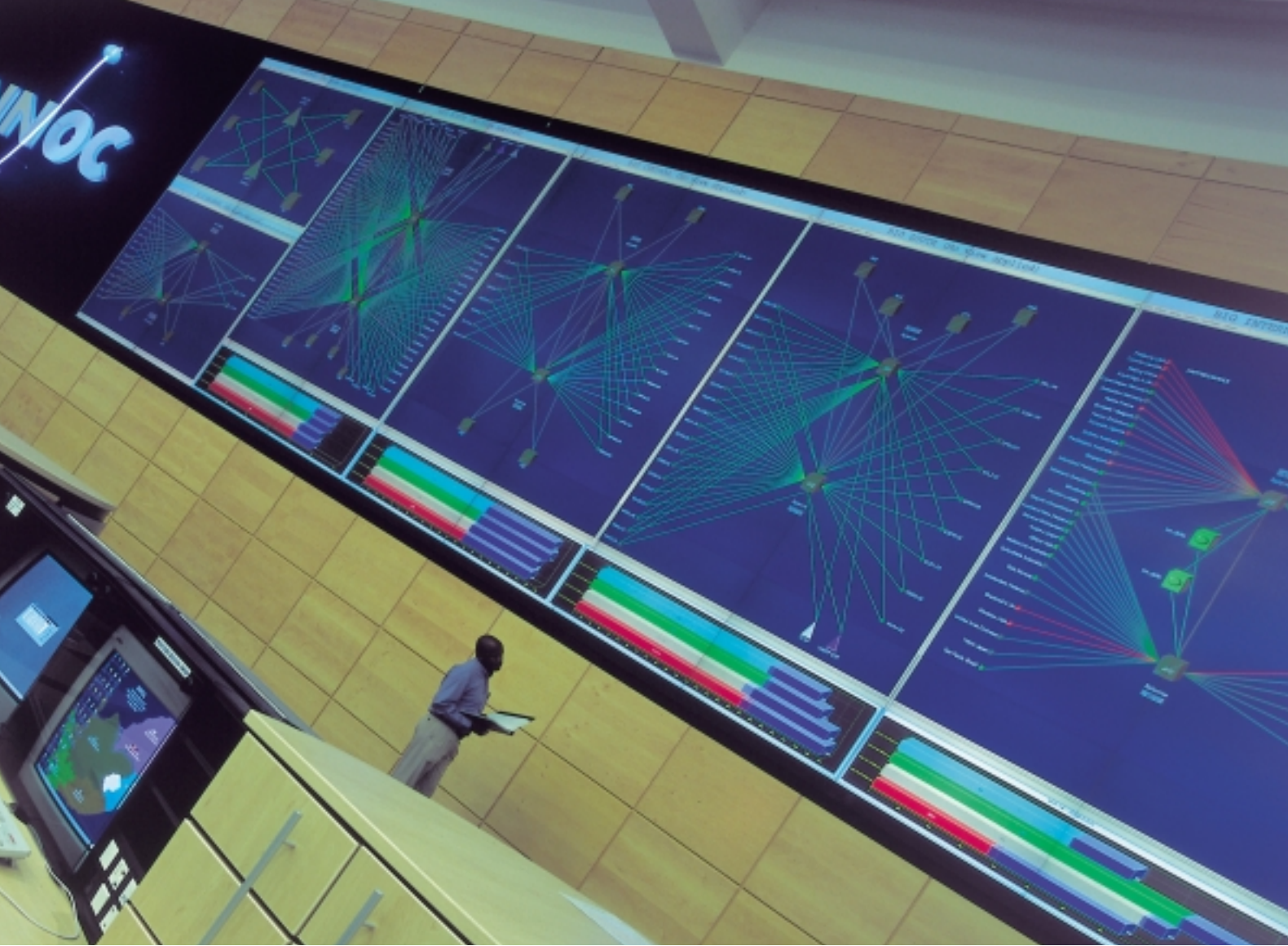


Poly-Silicon, the technology to go with

The need for a centralized approach to network management became increasingly obvious as time went on and Telkom began to consider what technology would be optimum for use in a video wall.

Eventually an open public tender was put out to various players to suggest technological options. The possibility of using CRT's (Cathode Ray Tubes) was mooted but Telkom rejected these on the grounds that they were heavy on electricity, created burn marks on the phosphor coating inside the tube if used for too long, and tend not to last. Other companies in the tender suggested DLP (Digital Light Processing) chips, but these were rejected because of potential support problems.

Barco, whose products are locally supported and distributed, had also



pitched the idea of DLP's, but at the same time suggested Poly-Silicon projection. This is a technology they have developed themselves and is the latest type of LCD technology. It uses less lamp power to produce the same brightness as other technologies, but the lamps last up to 8000 hours at a stretch. In addition Poly-Silicon is producing a brighter image and scored the highest overall score in a test of a number of criteria, including compliance with the technical specifications, economic empowerment, local content, life-cycle cost of the product and delivery. Since Poly-Silicon is a technology owned and developed by Barco, Telkom felt that this guaranteed company support. This will not change during the lifetime of the wall and Barco has a proven track record in producing world class 24-7-365 control centers.

Installation with accuracy and speed

The basic aluminium framework for holding the whole structure together was the necessary first step. It consists of moveable metal poles and partitions to house the projectors. When the basic structure was in place, the framework needed to be balanced and leveled. A precise alignment of the walls was of critical importance to make sure the screens would look like one logical screen, the entire length of the structure.

The next step was placing screens. Each screen is sixty-seven inches in diagonal, and enormous patience was required to seamlessly stitch them together. The eventual allowance is an extraordinary one millimeter of space between each of the cloths. This patented 'stitch' technique allows multiple display screens to move and expand when necessary, but this is minimal,

considering the fact that the air conditioning keeps the temperature constant. The screens are of a very special construction. The screen is a high gain fresnel screen type and produces more than three times the light output compared to a diffusion screen. The fresnel lens works on a similar principle to that of the light rays, thus giving more output. So, when combined with the XGA resolution of the projector behind, the performance is very impressive.

The projectors with sets of mirrors fold the image into the sixty-seven inch screen. This method was used to enable them to keep the cube structure small, otherwise the projector would need to be placed a couple of meters away from the screen. Once the first images were successfully projected onto the screens, it was necessary to color balance the wall to make sure that the exact color being

projected through the system was precisely the color being displayed on the screens. A color meter was then used to measure the color temperature of each individual cube in degrees Kelvin, with adjustments made to bring all the cubes to the same uniform temperature.

The final step was the integration of the software in the building, primarily between Telkom's management and applications software, allowing communication between the two and ensuring a seamless flow of information from the outside world to the video wall.

Software integration

Once greenlighted, the wall was able to receive signals from its exterior source. The flow of information from the outside world follows a pattern. The video signal is received by two DSTV decoders in the crisis room (ERAC) on the ground floor and fed to a Central Control System (controlled by a LAN). When an image needs to be stretched too many times its original size, special Video Insertion Units (VISU) resize the image by recalculating it, freeing the system from the bottle-neck of a computer's PCI bus. In addition to the image being monitored in large-screen format on the video wall, it can also be examined in detail on any one of hundreds of PC's in the area in front of the wall.

One of the PC's on the floor is a management tool for the configuration and manipulation of data that needs to be displayed and analysed. This information can be displayed, sized, or used in any way the technician wants, as he accesses it on his PC for further use and analysis. For this purpose PC management software called OSIRIS facilitates this function.

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Barco Control Rooms is an ISO 9001 registered company.
The information and data given are typical for the equipment described. However any individual item is subject to change without any notice.
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