VSN SERIES

Air Liquide control room utilises Datapath's flexible video capture and graphics cards for customisable video wall solution

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BACKGROUND

Air Liquide is a French multinational company which supplies industrial gases and services to various industries. The company fitted out a control room at its facility in Malaysia to monitor the production of industrial gasses across many different countries.

Hitecindo Kharisma (HIKA) was engaged as the supplier for the videowall which graces the Air Liquide control room. The project had a quick turnaround, only taking 6-months from first contact to the full comissioning and installation. Air Liquide had a clear idea of what it wanted the control room environment to be.

Burrd Lim from HIKA talks about how the project progressed says: "There were two aspects to the control room with regards to client requirements. One was regarding aesthetics and how it looked, which was handled by the interior designer, and the other was on the videowall side, they had a good idea of the flexibility and performance that they wanted."

THE CHALLENGE

The project itself was unique. Lim says: "In a traditional control room, you have a few operators and each will have one or two PCs. These will connect with our videowall controller which will receive inputs, be it HDMI or DVI, from the workstation and these will be pumped to the videowall. For the Air Liquide control room the design criteria were different."

Lim continues, "Firstly, none of the three operator consoles were meant to have PC hardware housed nearby. Part of the reason for this was aesthetics and part of it was because of the console furniture that had been selected. It would be tricky to put the PC hardware there. So the PCs are all installed away from the operators in an equipment rack."

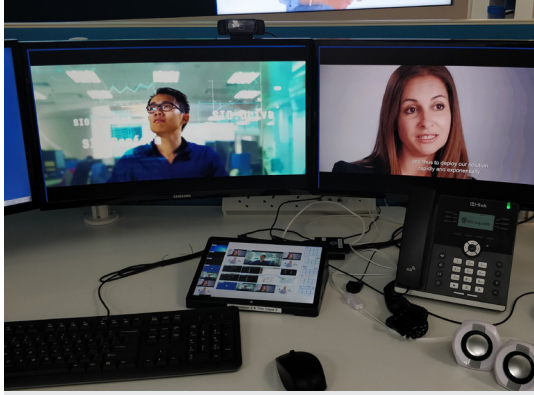
The other complication Lim found was that each operator had two PCs with four outputs each. A more typical situation would have been eight monitors, one for each output. But, in addition to these workstation PCs, there were some general workstations that each operator needed to be able to access and control. So each operator essentially required 12 monitors to view all the outputs he or she needed to access.

A further challenge was the furniture selection. Lim adds, "The operator consoles only had space for three monitors. We used curved monitors and managed to squeeze in four. But even with them you cannot connect directly to each output. So outputs from all the PCs goes into the videowall controller which not only sends the signals to the videowall but also to the 12 monitors used by the three operators." Each operator had access to a 4x1 array of Samsung C24F390FHE monitors.

THE SOLUTION

HIKA set out to design a videowall system that could deliver the capabilities required by Air Liquide. The main 4x2 videowall itself comprises eight LG 55VM5B units mounted on pop-out brackets, installed on a custom floor mounted structure.

Regarding the selection of the LCD panels Lim comments, "There are only a small handful of manufacturers that can supply ultra-narrow bezel panels for videowalls. In Malaysia, there are only two options namely LG and Samsung. In terms of technical specifications and hardware, there is almost no difference between the two. So the decision is made based on pricing."



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Burrd Kim, Hitecindo Kharisma

The core of the videowall system is the Nexus DCx videowall controller, which uses Datapath's ImageDP4, VisionHD4+ and Express11. Lim says, "HIKA has been installing videowalls for control rooms since the late 90s. But at that time we were selling controllers from Christie and Jupiter Systems. These are high-end products and they are expensive. After a few years in the market, we learned two things. The design philosophy of the American and European brands did not fit local requirements. So around 2000, we decided to establish a small development team and started making our own videowall controller. We chose the Datapath controller and our design philosophy moving forward was geared towards local requirements."

The ability to provide a customised solution using reputable hardware was integral in the delivery of the project. Lim explains: "Conventional videowall software needs to sit on a workstation. At Air Liquide, an operator in the control room might not actually be accessing their workstation at all times. They might be accessing a shared workstation instead. If you are doing that, then the software on your workstation is no longer active. We overcame this with our touch screen solution so what they see on the screen is what they are supposed to be working on while a separate device can be used to control the content displayed on the screen."

Three Pipo X10 touchscreens for the operators, and 22-in Dell 3263T monitor for supervisor have been provided. Regarding the operation of the system Lim says: "The source is the workstation PCs. From there we use DisplayPort or DisplayPort ++ cables to the controllers. We didn't need any extension since both are located quite close by in the rack, we just needed adapter to convert to DVI. From the videowall controller to the videowall and the monitors we use Displayport cables. On the monitor end, we use a Datapath dongle to convert to HDMI since the monitors are consumer devices.

Lim added, "I decided to go with Displayport cables primarily because they are passive. The cable run was 15m and we used higher quality cables to ensure that no extra hardware would be needed to get the signal. The cable runs were all going to be cemented over so my main concern was to ensure that there were as few points of failure in the cabling because accessing the runs later would be difficult."

KIT LIST

Video

- Aten US424 USB switches
- Custom brackets and mounts
- Datapath Displayport to HDMI convertor
- Dell 3263T 22-in monitor
- LG 55VM5B panels
- Nexus DCx videowall controller using
- Datapath's ImageDP4
- VisionHD4+ and Express11
- Pipo X10 touchscreens
- Samsung C24F390FHE monitors
- Unitek Y-262 extenders

Audio

- Extron BUC-202 units

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