



ELECDAN INTEGRATES IHSE KVM AND JUPITER VIDEOWALL CONTROLLER TO DEVELOP STATE-OF-THE-ART CONTROL ROOM SYSTEM

CONTROL ROOM REQUIREMENTS

Modern control rooms must receive, process and display a vast variety of incoming data feeds whilst simultaneously managing and transposing several different formats and image resolutions. Reproduction has to be instant and with no degradation or corruption on any display in the control room so that operators can fulfil their complex and stressful tasks.

At the same time, the whole system should operate to the highest level of reliability and security, without causing distraction to either the operators or the system management teams.

Today's control room installations often marry individual banks of personal workstations for system controllers with large central video walls for general and supervisory status viewing. Sometimes additional incident rooms are created that also need instant data feeds. The full system and the routes from source to display require centralised or decentralised system management to ensure instant switching and routing of information to the appropriate terminal.

TYPICAL ARCHITECTURE

The typical architecture of a control room installation comprises a set of individual elements:

- Information sources and storage devices – The incoming data and video feeds and local computers responsible for information analysis and evaluation. Today these are generally image capture devices, sensory and supervisory control computers and data reception devices, such as third-party data provision. In the future there is likely to be an even greater variety of devices as data analysis increases and artificial intelligence applications become more widespread.
- Signal translation and routing equipment – This is commonly a KVM matrix switching unit that receives the multitude of incoming data feeds and routes them individually to the appropriate viewing stations. Data streams may also be transmitted to remote reception points over dedicated in-house or wide-area IP networks spanning tens of kilometers.
- Data display devices – Pertinent data needs to be presented to staff in the control room on local screens. These usually comprise a mixture of operator workstations and common-view videowalls as well as breakout rooms and remote areas for additional data presentation activities.

“This is a highly collaborative project that was successfully completed by bringing together three industry-leading players to create a single solution. The outcome was very much an example of the whole being greater than the sum of its parts.”

Christophe Varnier, project leader for Elecdan.

THE ELECDAN CONTROL ROOM SOLUTION

Elecdan has developed a sophisticated and adaptable solution to fully manage and provide information within a high specification control room.

The solution proposed is based around three core elements:

- IHSE Draco tera KVM matrix - A highly secure and reliable data reception and switching system responsible for receiving, converting and selecting data streams for local desktop display and onward transmission to the video wall processor.



ihse.

- Jupiter video wall processor – Responsible for manipulating and layering multiple streams of data onto a large videowall used for common access and viewing of the full control system. Including multi-channel warping, blending and window overlay for image presentation.



Jupiter

- Kramer customisable user interface – Allows system managers to create an interactive interface for the operational management team to select and switch data feeds onto the videowall.



kramer

The overriding design criteria for the system is to ensure that the most relevant information could be presented to operators at all times, without failure or corruption. A second aspect is that the system should be futureproof, so that as new data streams became available, in whatever format and resolution proposed, they could be easily incorporated into the overall system.

“This is an excellent example of an integrated system that exhibits cross-compatibility to manage multiple input streams of many different formats. It centres on a common user interface that enables users to dynamically control the data presented to exactly meet their instantaneous operational requirements.”

Daniel LeCour – Senior Director of Int. Sales, Jupiter Systems

SYSTEM BENEFITS

The combination of IHSE, Jupiter and Kramer components allows Elecdan to develop a fully scalable control room system to meet the individual control room requirements of many organisations with a wide portfolio of benefits. These benefits include:

- Fast, delay-free operation and switching - Ultra-fast connection and instant user-controlled switching of data feeds to desks and onto the common videowall.
- Highest possible data security and integrity - Highly secured dedicated fiber or copper links without needing to use IP protocol for video transmission.
- High reliability - Signal processing using end-to-end FPGA technology and dedicated hardware-based elements.
- Operationally robust - No reliance on Windows operating system helps in the objective of continuous operation and minimises virus threats to virtually zero.
- Very quick to maintain and develop – The single user interface for the whole system can be modified easily using a drag-and-drop button user interface tool with customisable text. This allows creation of an intuitive user interface that operators themselves use to select operational data to meet the running status of the system.
- Internal secure data handling capability – With the use of IHSE Draco vario KVMA Isolated Secure Extenders a further level of secure transmission can be achieved in KVM switching systems. This includes the partition of secure and non-secure data sources for restricted viewing.

The full solution delivered by Elecdan offers a highly reliable and resilient solution that operates with the maximum possible level of efficiency and flexibility. Its future-proof nature means that the system can be adapted and evolve as requirements change and allow the operator to further develop and change the system as new innovative and novel concepts are developed.

“The Elecdan solution combines the latest KVM and videowall display technology in a solution that delivers exceptional capability in resource management to meet the requirements of the most demanding control room installations. The future-proof design philosophy of IHSE and Jupiter means that control room longevity is assured, as new data formats and resolutions are introduced in the future.”

Mark Hempel, Head of Product Management, IHSE

TYPICAL SYSTEM COMPONENTS

- IHSE Draco tera KVM matrix switch
- IHSE Draco vario KVM extenders
- Jupiter J-series videowall processor
- Kramer room controller
- Kramer touchscreen monitor
- Backup touchscreen and mobile device using HTML web interface

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