



Yokogawa Optimizes HMEI Control Room Operations with MultiView KVM Solution

- **Industry:** Energy
- **Client:** HMEI
- **Region:** India
- **Solution:** Freedom KM Switches, Multiviewers, KVM Extenders



BACKGROUND

Yokogawa is one of the largest turnkey systems integrators in the industrial segment in India, providing industrial automation and test and measurement solutions. Black Box and Rahi (a Black Box partner) are their preferred vendors for KVM Solutions. Rahi and Black Box discovered this opportunity in late 2018 during regular customer interactions.

HPCL-Mittal Energy Limited (HMEI), with its superior petroleum and petrochemical products, is dedicated to fueling India's growth story.¹ HMEI, the end-user and a client of Yokogawa, needed to extend four KVM machines in a server room to a control room on ten 27-inch desktop monitors and three 55-inch screens. Yokogawa and its partners, Black Box and Rahi, were tasked with delivering a turnkey solution to HMEI.

THE CHALLENGE

To enhance operations in the control room, improve workflow and efficiency, and optimize processes, HMEI needed to extend keyboard, video, and mouse of machines

from a server room to a control room and display on desktop monitors and large monitor screens in the control room. They were faced with a distance roadblock: the workstations in the control room had to be located 311 feet (95 meters) from the server room.

The ability to use one keyboard/mouse to control four screens in the control room was another request. All needed to be compatible with the Yokogawa Engineering Keyboard, which would be used to access the server. The other screens in the control room would switch via standard keyboard/mouse.

Redundant operation was a requirement because the customer could not afford any downtime. If a switch failed, they must use the QWERTY keyboard and mouse as a backup. The client also wanted to change the layout on the screens to view the input in different modes (full-screen, picture-in-picture, or quad view).

THE SOLUTION

To support KVM extension of machines from the server room and monitoring on both desktop screens and large screens, we proposed a solution mixed with KVM extenders, Freedom II KVM Switch with Glide-and-Switch mouse functionality, and Multiviewers, as well as cables, to meet operator requirements in the control room.

First of all, to extend a single machine at a distance of 311 feet (95 meters), we proposed a KVM CATx extender transmitter and receiver.



To provide single keyboard/mouse access across multiple servers (two servers), we suggested using a Keyboard Mouse (KM) switch (Freedom Switch). This enabled seamlessly switching systems by moving the mouse cursor from one screen (connected to a specific server) to another screen (connected to another server) using the Glide-and-Switch feature of the Freedom Switch. The KVM extender and the switch are both compatible with the Yokogawa Engineering Keyboard.

Next, a multiviewer could display one/two video output(s) of each server on a large 55-inch screen, with the option to display multiple inputs from different machines simultaneously on a single screen in quad view. The video input of the machine connects to the multiviewer device over HDMI and the large display also connects to the multiviewer. Users can change the layout to view the input in different modes (full-screen, PIP, quad view).

The third component of the solution protects operations from downtime. If the switch fails, operators can use the QWERTY keyboard and mouse connected with individual KVM receivers for redundant operation.

The deployed solution extends four servers from a rack room to a control room on ten 27-inch desktop monitors and three 55-inch screens.

RESULTS

Now the customer has an end-to-end, optimally functioning control room setup installed that delivers each and every one of their requirements. The new system extends KVM up to 311 feet (95 meters) and supports the use of one keyboard/mouse to control two machines (along with a

backup receiver that enables QWERTY keyboard/mouse functionality). Three large 55-inch screens display inputs from different machines at the same time in the viewing mode (full-screen, PIP, or quad view) selected by the user. Employees enjoy streamlined operations in the control room and improved workflow and efficiency.

Das Babu, Solution Architect at Rahi systems, presented multiple demonstrations to the customer on-site. Das, together with Black Box's own Mahesh Jaybhaye, Sales and Business Manager - India, managed the account. Mahesh remarked, "This is one of the critical projects Black Box is working with Yokogawa. This implementation will help to replicate such solutions at other places in Yokogawa's customers in India as well as this project might get highlighted into Yokogawa HQ as a case study as this is one of the first for them."

Indeed, with an eye to the future, this project may function as the gold standard to follow for replicating solutions for Yokogawa's customers in India.

¹<https://www.hmel.in/aboutus>