ELECDAN HELPS REVITALISE RTE ELECTRICITY SUPPLY

AT THE HEART OF THE ÎLE-DE-FRANCE AND NORMANDY REGIONS

THE CUSTOMER

RTE (Réseau de Transport d'Electricité), the state-owned operator of the French electricity transmission network, has the mission to ensure the supply of electricity throughout the whole of France.

With 9500 employees, the organization manages electricity transmission and balances electricity production with consumption in real time. The French network is the most extensive in Europe and includes over 100,000 kilometers of overhead lines and 2,800 electrical substations.

View into the new control room

As a forward-thinking operator in the transition of energy supply, RTE constantly seeks to optimize and transform its network to incorporate future energy production methods.

> "This is a strategic site responsible for delivering power to the large regions of Île-de-France and Normandy. We operate in the most efficient and reliable manner possible whilst guarding against cyber attack. We need to prepare for the challenges of tomorrow: the need to increase power delivery and to encompass new methods of power generation."
>
> Stéphane Favier, Director of the RTE Center

THE CHALLENGE

The Montigny-le-Bretonneux site at Saint-Quentin-en-Yvelines manages the electricity supply in Île-de-France and Normandy regions. A new control room was proposed to oversee and manage the power grid control systems with total security and reliability. At all times, the center has to ensure resilience in communications to external support, maintenance and service providers and guard against external cyber attack.

The role of the new center is to enable the remote control of business applications and SCADA content running on machines situated in two separate remote technical rooms. Operators oversee operations on 15 user panels, each consisting of two 49" monitors. These displays have to operate in both full-screen mode at a resolution of 5120x1440 and dual display mode at 2560x1440.

Operator's desk with ultrawide screens

RTE require the ability to seamlessly switch between professional GUI computer displays using a manual key on a pre-programmed keypad. In addition, they desire the capability to switch between full-screen display mode and multiple display of two simultaneous sources per screen with no graphic artefacts.

As the organization grows in the future to incorporate new power generation technologies such as wind turbine and solar generation, the control center will need to adapt to meet changing requirements.

THE SOLUTION

An IHSE Draco tera enterprise KVM matrix system was integrated into the control room system architecture to provide connectivity and switching of data feeds to the operators responsible for maintaining the power network on a continuous daily basis.

All the source computers, which provide information on power generation, instantaneous user consumption, meteorological conditions and a range of other data, are located in a remote central server room. Individual copper/fiber connections to the matrix switch allow operators to select information they need to actively control the network. Data is also supplied to a central videowall controller for common access by team members in the control room.

Several operational scenarios are preset in the Draco tera matrix switch allowing operational changeover by means of industrial keypad control to meet different situations for day and night operations and emergency instances. These can be selected by the duty manager as necessary and ensure that all operators have access to the most appropriate real-time data and control systems without delay, image artifacts or error.

Redundant operational capability is incorporated into the system so that strict separation of individual KVM matrix infrastructure networks is maintained to ensure continued operation in the event that one route becomes non-operational.

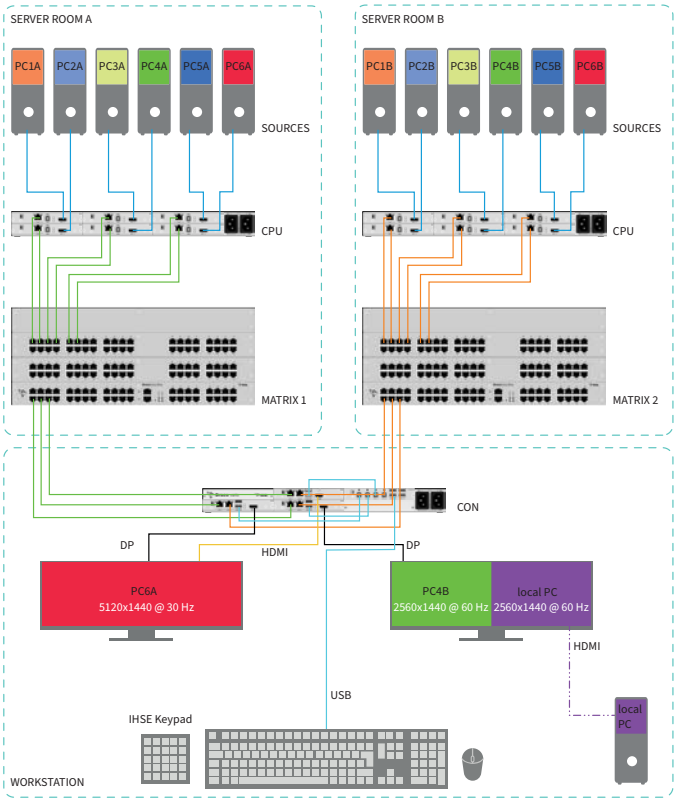
THE BENEFIT

The installed KVM system fully met the requirements of RTE for the control room and allows operators to function in the manner originally intended. It provides a highly efficient, ergonomic and comfortable environment for the operators which stimulates their activities and ensures they deliver power to the region in the safest way possible.

> "The IHSE KVM matrix switching system deployed in the control room delivers outstanding data connectivity and operational reliability with perfect image quality and no delay in response or switching of sources. This is exactly what was needed in this application. The system can be upgraded and adapted in future to meet changing customer requirements and incorporate additional devices that will undoubtably be required."
>
> Christophe Varnier, Responsible project engineer at Elecdan

The installation has the ability to instantly adapt to emergency crisis situations and can easily and simply be adapted and expanded in future to incorporate both new technology and workflow practices.

FUNCTIONAL DIAGRAM



KVM PRODUCTS IN USE

- Draco tera enterprise KVM matrix switches
- Draco vario KVM extenders

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