



KVM-TEC STREAMLINES POWER SUPPLY IN NORTHEAST CHINA

KVM SIGNAL EXTENSION ACROSS DIFFERENT FLOORS AT THE STATE GRID'S CONTROL CENTER.

THE CUSTOMER

The State Grid Corporation of China (SGCC), commonly known as the State Grid, is a Chinese state-owned electric utility corporation, responsible for the majority of the country's electricity grid operations and serving 1.1 billion people. The company is regarded as the world's largest utility, the world's third largest company overall by revenue, behind Walmart and Amazon, and China's most valuable brand.

SGCC owns five subsidiaries divided by greater interprovincial regions, that are directly managed. The Northeast China Grid (NECG), located north-east of Beijing includes the provinces of Heilong Jiang, Jilin, Liaoning and East Inner Mongolia.

THE CHALLENGE

The rapidly growing industries in China depend on a reliable and continuous power supply. This leads to increasing demands on the country's power grids. Energy transmission is therefore given top priority as the backbone of the Chinese economy. Although coal still dominates electricity generation with around 60%, China has experienced the fastest expansion of alternative energy sources in recent years. The northeastern region (NECG) in particular, has extensive and growing wind and solar energy resources.

At the NECG's control center, operators coordinate power generation and supply, ensuring that the greater region is reliably supplied with electricity. For the safe and reliable monitoring and control of power grid control systems, operators on the 4th floor of the building need flexible real-time access to applications and computers located in the server room one floor below.

A high performance KVM switching and extension system was required for flawless, bidirectional real-time transmission of computer signals and switching between computer sources. For security reasons, the installation required the option of USB key authentication for the control room staff to ensure that only authorized employees could access the dedicated computers.



THE SOLUTION

Following an extensive testing phase, NECG selected kvm-tec's MVX1-F and MVX2-F Masterline KVM extenders, which proved to be an ideal fit for their requirements. The decision for kvm-tec extenders was based on criteria such as reliable, high-performance KVM signal transmission, cost-effectiveness, and strong anti-interference capabilities.

MXV Masterline extenders support matrix switching capabilities for up to 48 end points (can be both sources and workstations), enabling the realization of flexible switching scenarios for real-time access to any device from any of the operators' control desk within the control center. The KVM extender system connects all workstations in the control room to the remote computers via an interconnected network switch using fiber optic cabling.

To protect against unauthorized access or data theft, operators must authenticate themselves using USB keys. For this purpose, the extenders provide a USB port on the user's end.

THE BENEFIT

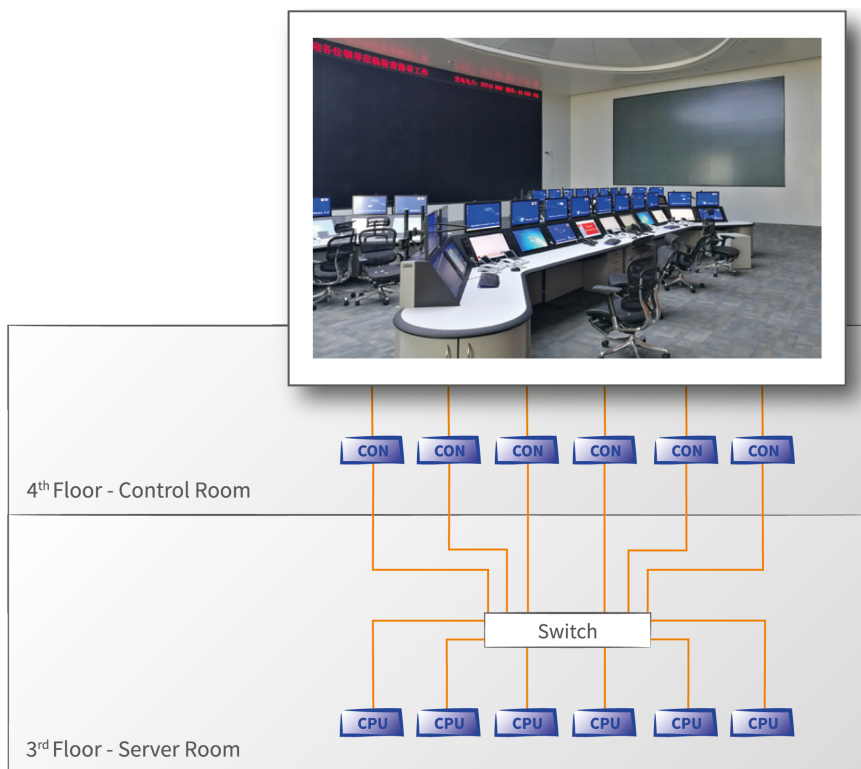
The installed KVM switching and extension system enables operators to work as originally intended, offering a reliable and

ergonomic environment that ensures smooth workflows and safe power delivery. Operators are focused on their demanding tasks without the distraction of space-consuming, noisy, and heat-generating computers, while enjoying flawless image quality and no delay in response, as if the computers were located directly at their desks.

The computer equipment is crucial for a safe and reliable power supply. Placing the computers in a secure, access-controlled server room on a separate floor enables the reliable and secure operation of critical systems, reducing the risk of unauthorized access, failures, or security issues.

The KVM system can be upgraded and adjusted in the future to accommodate evolving customer needs and integrate additional devices if required.

FUNCTIONAL DIAGRAM



KVM-TEC PRODUCTS IN USE

- MVX1-F Masterline Single Head Fiber CPU
- MVX1-F Masterline Single Head Fiber CON
- MVX2-F Masterline Dual Head Fiber CPU
- MVX2-F Masterline Dual Head Fiber CON

CONTACT

kvm-tec Electronic GmbH
 Gewerbepark Mitterfeld 1A
 2523 Tattendorf
 +43 2253 81912
 office@kvm-tec.com