Case Study

Examples of the power of data: CLP Power in Hong Kong

EADS
DEFENCE
& SECURITY

The power of data lights up Hong Kong

Starting with voice services, Hong Kong's CLP Power has evolved its TETRA network into a control system that monitors and regulates its power distribution network

CLP 中電 Hong Kong has a reputation as a dynamic, progressive place, one where excellence is demanded and achieved. This attitude is demonstrated in the performance of the territory's largest power utility CLP Power which delivers an electricity supply that is consistently 99.99% reliable to more than 2.2 million customers in the Hong Kong SAR.

This kind of efficiency relies on dedicated staff, a resilient power network and effective communication with timely information. The latter is provided by an EADS TETRA system, the first 800 MHz TETRA system in the world when it became operational in 2003.

Because it only needs to cover a relatively small geographical area, the system comprises two DXTip switches and 17 base stations.

Evolving beyond voice

When the network was introduced, the initial focus was on voice communication, but there is now increasing emphasis on data applications as well. This is partly due to the need to enhance the supply reliability to Hong Kong's rural area. The overhead lines used are susceptible to heavy rains, thunderstorms and even typhoons, encouraging CLP to develop TETRA applications for remote monitoring and control. Based on a mobile radio and a remote electric power control unit, mounted in an IP66 outdoor cubicle, the application uses SDSs transmitted over the TETRA system to provide the monitoring and control information on the 11 kV overhead power lines.

Previously, when a fault signal was received at the control centre, CLP would send a patrol team to the line to recover the electric supply. The introduction of control units saves the manpower required while reducing the downtime from hours to minutes. Engineers now simply send a resume signal to the overhead lines' controller unit to restore the power.

Keeping crews safe

Similarly, Automatic Fault Location System ensures repair crews know exactly where to go, making it possible to recover faults in a few hours. A person location system for mobile patrol teams ensures personnel safety in remote areas, while allowing the control centre to despatch the closest unit to respond to urgent needs. Their efficiency has also been improved by replacing printed job instructions with SDS messages.

Safety is the number one priority for CLP Power. They are committed to providing electricity, reliably, and safely, to their customers, achieved through dedicated staff supported by advanced technologies such as TETRA. Apart from voice communication, the TETRA system provides an advanced and flexible platform for safeguarding the well-being of field personnel. And thanks to its open standard approach, it provides a reliable wireless platform for developing applications that support the company's power system operations.