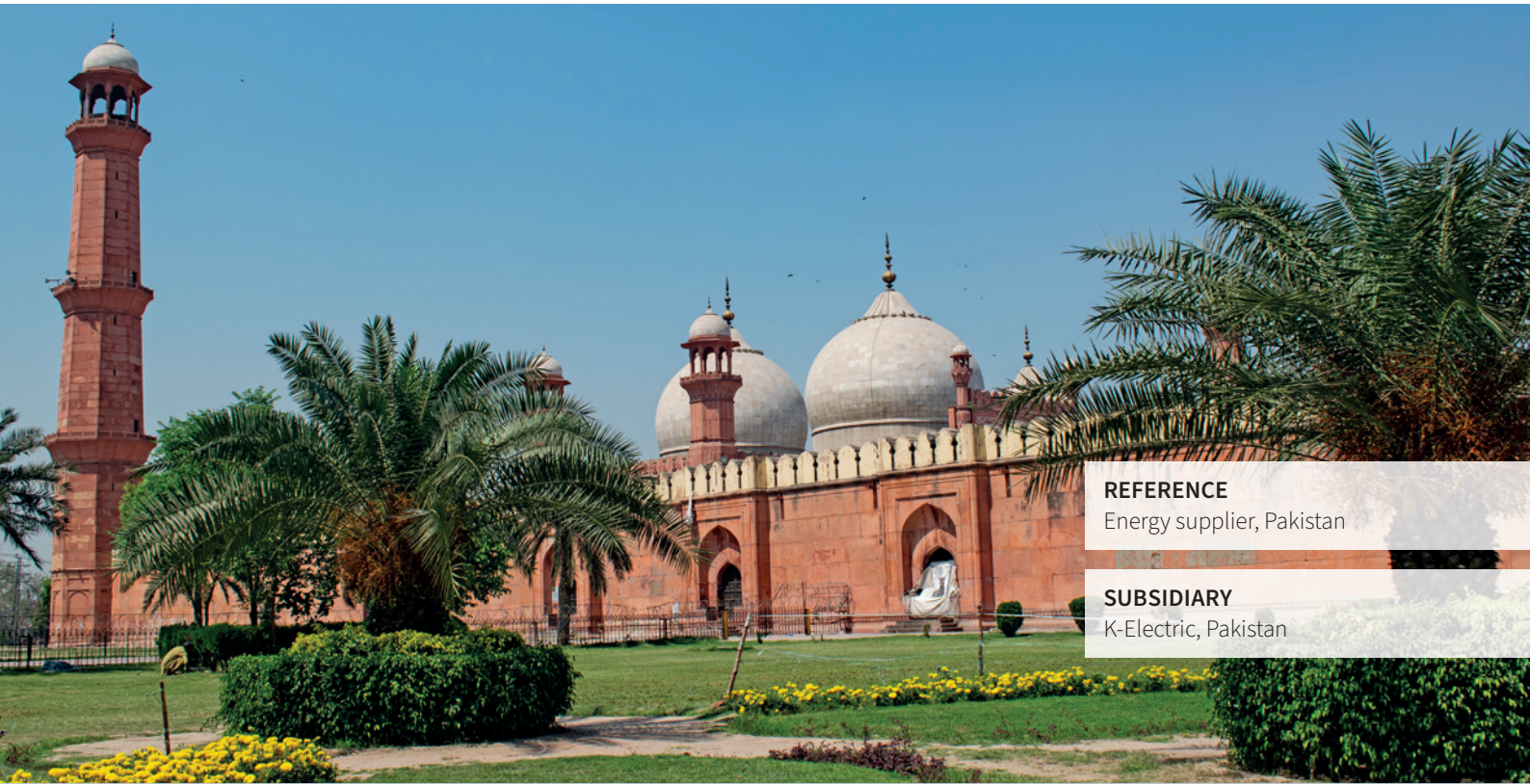


Case study



REFERENCE

Energy supplier, Pakistan

SUBSIDIARY

K-Electric, Pakistan

SMARTER, MORE RELIABLE ENERGY
DELIVERY FOR THE LAHORE REGION

Janitza



Helping supply millions with electricity: a closer look at the Janitza solution

PAKISTAN'S LARGEST UTILITY GAINS REAL-TIME VISIBILITY, FEWER OUTAGES, AND A SECURE, SCALABLE MONITORING INFRASTRUCTURE

CHALLENGE

K-Electric is one of Pakistan's largest utility companies, based in Karachi. The company covers the entire energy supply cycle – from power generation and transmission to end-customer delivery. This makes K-Electric responsible for supplying power to more than 4 million people. Nevertheless, the company faced limited real-time insight into power quality issues across its infrastructure. This resulted in delayed fault detection, inefficient energy monitoring, and challenges in ensuring compliance with power quality standards. The project included initial phases for smart grid monitoring for suburban areas in Lahore. The solutions found and experiences gained should be further expanded over the next few years.

SOLUTION

In collaboration with Janitza Electronics, K-Electric introduced the Certified Power Quality Analyzer (Class A) UMG 512-PRO as a scalable solution to K-Electric's monitoring needs. C-XOR Engineering led the integration of Janitza's advanced PQ systems at multiple key locations. The UMG 512's high-resolution measurement capability, real-time data logging, and Class A compliance provided a comprehensive view of energy flows and disturbances. Integration with Janitza's Power Grid Monitoring Software GridVis® further enabled centralized data analysis, reporting, and early fault detection. In total, 37 units of UMG 512- PRO were deployed in the first phase, with plans to expand the deployment in 2025 and 2026. The entire project was executed with the support of ABB and in close



Location

Lahore region,
Pakistan



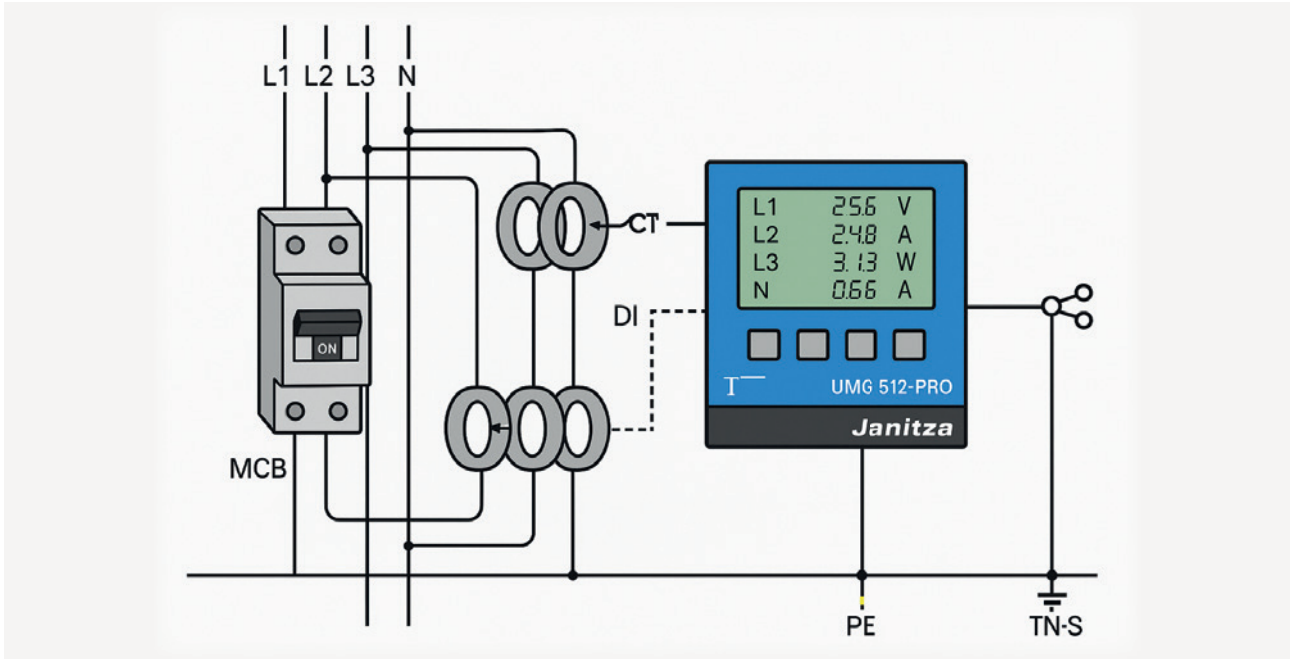
Year of implementation

2024



Application

Power quality
monitoring



Schematic representation of the communication structure .

coordination with K-Electric’s technical teams as well as in a strong partnership between the certified Janitza partner C-XOR Engineering and Janitza providing support, service, and equipment supply. K-Electric focused here on a customized high class power meter with programmable monitoring of Main Circuit Breakers (MCBs) for tripping events and report to the central power distribution control system. Therefore, the client has a digital twin application for each mandatory and critical outgoing to control by remote and local at the substation.

BENEFITS

Through the partnership with Janitza and C-XOR Engineering, K-Electric gained a reliable, scalable power quality monitoring infrastructure that delivers real-time visibility across critical parts of its network. The UMG 512-PRO analyzers, integrated with GridVis® software, enable early fault detection, accurate compliance reporting, and targeted maintenance. This has led to fewer outages, faster troubleshooting, and optimized use of existing assets. With programmable MCB monitoring and a digital twin of each critical feeder, K-Electric can now manage its substations both remotely and locally with greater efficiency and security. The project paved the way for the next project phases and further strengthened trust among all stakeholders involved.



Hardware

37 pcs of
UMG 512-PRO



Software

GridVis® Professional



Service

Training and commissioning by Partner
C-XOR Engineering

ABOUT JANITZA

Janitza develops comprehensive energy measurement solutions that ensure transparent energy flows and monitor power quality. The global company, headquartered in Germany, provides individual solutions to meet specific customer requirements across a wide range of industries, including data centers, manufacturing, buildings & infrastructure, utilities, and renewable energy.

PRODUCT RANGE

Janitza's portfolio includes innovative measuring devices and the perfectly integrated Power Grid Monitoring Software GridVis®, complemented by high-quality components. Customers worldwide benefit from solutions in energy data management, power quality monitoring, and residual current monitoring, all within a unified system environment – Made in Germany.

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