

## Case Study



### REFERENCE

Energy supplier, Turkey

### PARTNER

Epkom Elektronik

# STABLE POWER SUPPLY FOR AN ENTIRE REGION

**Janitza**



*Contributes to the overall development of the Turkish energy sector: energy supplier SEDAŞ in northwest Turkey*

## A TAILORED MEASUREMENT SOLUTION COVERING 45 DISTRICTS IN TURKEY

### REQUIREMENT

SEDAŞ supplies and distributes energy across the Turkish regions of Sakarya, Kocaeli, Bolu, and Düzce, covering 45 districts and 66 towns. The vast area includes 26 substations and 302 distribution stations. This network consists of various components – remote terminal units (RTUs), power quality analyzers, and protection relays. So instead of a typical communication protocol, different communication protocols are used in the field. The challenge was to design a system capable of collecting large volumes of energy data from approximately 2,500 measurement points and securely transferring it to the data center.

### SOLUTION

The Janitza partner installed the UMG 605-PRO power quality analyzer at each of the approximately 2,500 measurement points within the SEDAŞ grid. A wide variety of physical transmission media were seamlessly integrated – including fiber optics, copper lines, G.SHDSL, and GSM – depending on local infrastructure and technical constraints. Numerous communication protocols and protocol converters ensured interoperability among different system components.

To reduce data volume, measurement parameters were selected individually based on customer needs. Additionally, averaging intervals were clearly defined, ensuring only relevant



Location

Istanbul region,  
Turkey



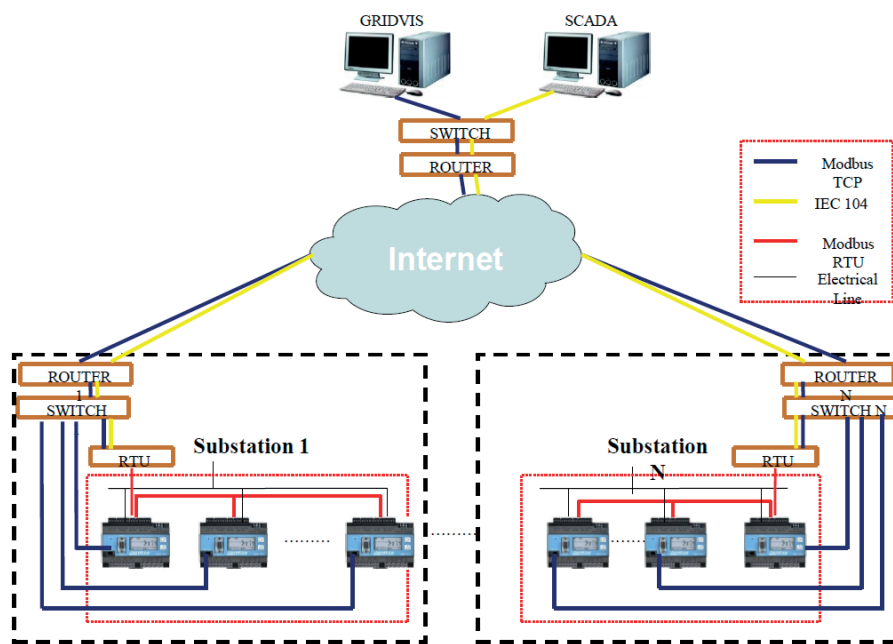
Year of implementation

2012



Application

Power quality monitoring  
and energy monitoring



Schematic representation of the communication structure

and appropriately granular data was transmitted. This approach optimized both bandwidth and system performance without compromising data quality.

Special attention was paid to cybersecurity: end-to-end encryption using SSL was implemented from client PCs to the gateway, ensuring secure communication across all media. This combination of intelligent data management and robust encryption established a scalable, secure communication backbone for the utility's monitoring infrastructure.

#### BENEFIT

Thanks to predefined GridVis® PQ reports (EN 50160, EN 61000-2-4, IEEE 519, ITIC (CBEMA)), continuous monitoring of power quality and compliance with applicable standards at distribution points was ensured. The Janitza solution included also fast access to device event logs, fault analysis and predictive maintenance services. The load profile analyses provided by the Janitza components ensured the optimum use of existing infrastructure. Thanks to the defined alarms, SEDAS was able to minimize interruptions and failures. Thanks to the defined real time settings for alarms, downtimes and interruption were minimized. Transmission, distribution and non-technical losses were determined. Field research was carried out on these.



Hardware



Software



Service

UMG 605-PRO

GridVis® professional

Support for partner

## 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.

## HEADQUARTER

### Janitza | Germany

Vor dem Polstück 6  
35633 Lahnau  
Phone: +49 6441 9642-0  
Email: [anfragen@janitza.de](mailto:anfragen@janitza.de)

[www.janitza.com](http://www.janitza.com)

## GLOBAL

### Janitza | USA

Phone: +1 888 526 4892  
Email: [sales-us@janitza.com](mailto:sales-us@janitza.com)

### Janitza | Austria

Phone: +43 7942 214 966 194  
Email: [anfragen-at@janitza.com](mailto:anfragen-at@janitza.com)

### Janitza | Mexico

Phone: +52 56 6674 4808  
Email: [sales-mx@janitza.com](mailto:sales-mx@janitza.com)

### Janitza | Australia

Phone: +61 411 544 114  
Email: [sales-au@janitza.com](mailto:sales-au@janitza.com)

### Janitza | UK

Phone: +44 7939 697 434  
Email: [sales-uk@janitza.com](mailto:sales-uk@janitza.com)

### Janitza | India

Phone: +91 900 387 6980  
Email: [sales-in@janitza.com](mailto:sales-in@janitza.com)

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