

Case note

Building Integration Technologies

Security and Automation in sunlight



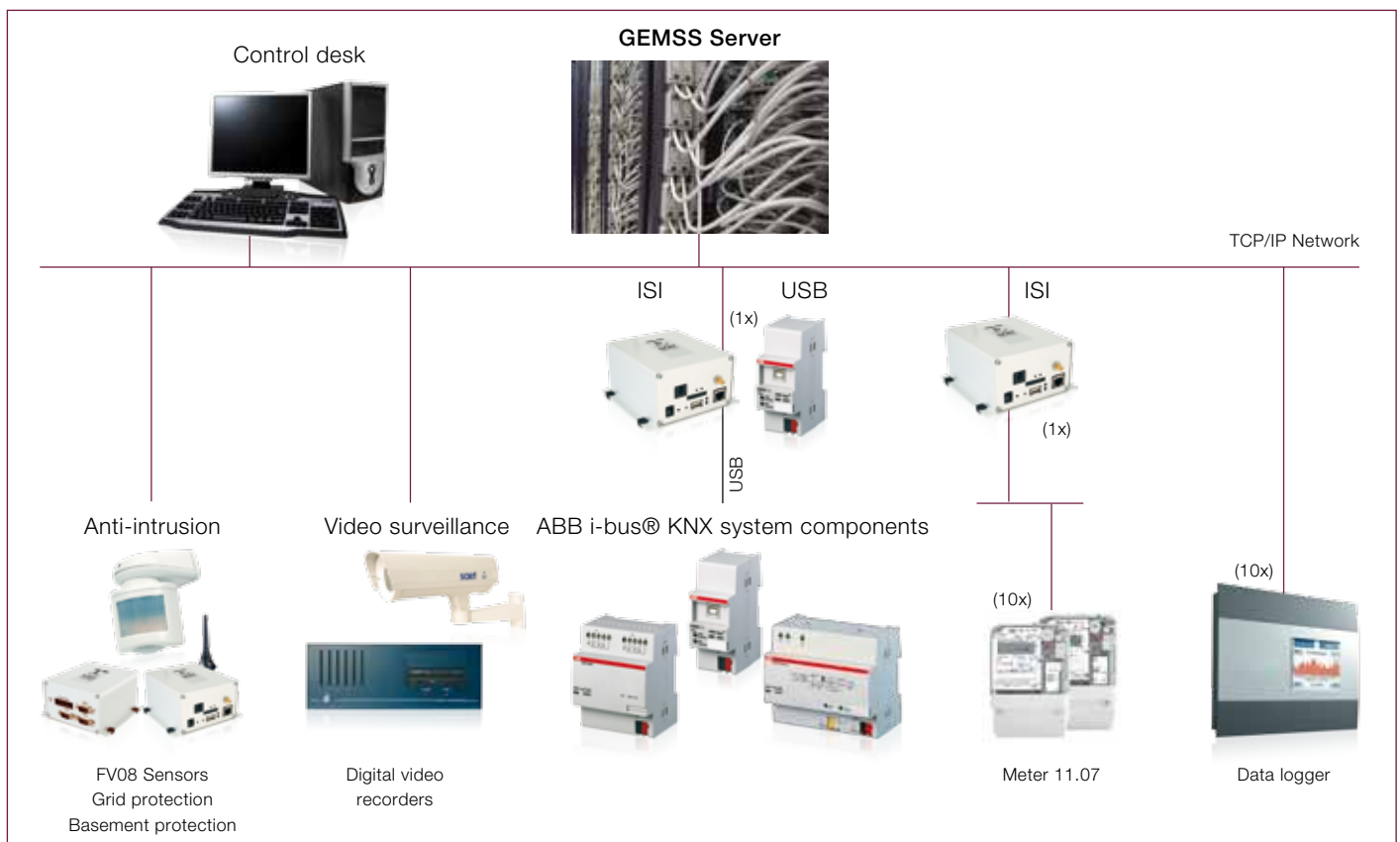
Context

Power plant for the production of energy through solar panel technology. The plant extends over a level area of 4700 meters in perimeter and produces an output of 16MW using 69,336 solar panels.

Description

The complex requirements in managing this site have been fully met by the adoption of the SAET GEMSS Integrated Supervision System that is able to provide simultaneous monitoring of the different subsystems of the plant: anti-theft protection system of the photovoltaic panels, perimeter protection system of the grid, basement perimeter protection system, video surveillance system, automation devices control system and GSE meters. A symbol of collaboration and consolidation of SAET and ABB solutions and expertise.





Solutions adopted

SAET FV 08 technology has been chosen as the anti-theft protection system for solar panels mounted at ground level and is able to control all the 3,852 panel strings over 24 hours. The 1,284 FV 08 SAET sensors, housed in 214 panels from ABB's Gemini series, are installed adjacent to each inverter and can immediately detect any removal of even one panel of each string. SAET technology is able to effectively distinguish between atmospheric disturbances and attempted theft. The installation of the system requires no installation activities on individual panels or individual strings. The wiring of the latter occurs upstream of the inverter and does not cause power failures or reduce plant productivity. The signals coming from the SAET FV 08 sensors are sent to four SAET DELPHI power stations. The control and centralized command unit of the panels of electric switches which is distributed throughout the 10 enclosures, is done through Konnex bus devices. Existing fiber infrastructure was used to interconnect the enclosures. 10 GSE-certified meters are installed to calculate the energy produced for fiscal purposes. All readings are collected from the meters and put in historical order by the GEMSS Supervision System, which store the acquired data and produce comparative reports. The data obtained serve as a reference for administrative tasks of billing and invoicing. All production data (active and reactive power, current, power factor) are collected by appropriate data loggers and transmitted and stored in the Supervision System database. These read the values measured in real time in the field and draw periodic comparisons and subsequent reports.

Advantages of the surveillance system

The advantages of the SAET GEMSS Supervision System are greatly evident in a context that is so broad in scope and complexity of the variety of technologies. All the over 14,000 subsystems are managed and controlled by GEMSS. From the local control point, the companies entrusted with the management and maintenance constantly monitor the system. The remote monitor, installed at a security surveillance office, controls the safety of the premises and installations 24 hours a day. The buyer, via their own remote monitor, consults the system to obtain production reports and manages all administrative aspects of billing and invoicing.

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