

Success Story

Turkish Solar Power Plant Improves Network Infrastructure with Zyxel Switching Solution



Energy



KHM Enerji
Turizm



Turkey



Zyxel
Switching
Solution

Overview

Challenges

- Had to provide comprehensive network coverage to a vast area
- Needed to manage the energy load distribution problem of CCTV security devices
- Had to manage active network devices which are integrated with security cameras within the solar plant from a single point

Results

- The network infrastructure of the solar power plant was strengthened with Zyxel switches
- The institution's communication infrastructure has become more flexible and scalable
- Economical installation that required less cable usage for security cameras
- Instant transmission of high-quality video images in security cameras integrated with switches
- Agile traffic control for unified network applications
- Advanced control and isolation advantage for better convergence of video, audio, and data
- Possibility to minimize operational expenses with Zyxel One Network

Solution

- Zyxel Switching Solution

"We started with Çumra Solar Power Plant where we recently installed a new video surveillance system. This infrastructure needed a strong and uninterrupted communication network. KGB Bilişim and Zyxel's end-to-end network solutions successfully helped us to strengthen our network infrastructure. We thank Zyxel Networks and KGB Bilişim for their support and recognize their rich experience and expertise. Zyxel Networks completed the installation in a shorter time than we had anticipated."

Hüseyin TAŞ
Co-Founder, KHM Enerji Turizm

Background

Solar energy draws attention as a renewable energy source that does not pollute the environment or create harmful waste while being easy to install and use. Turkey is among the countries with the biggest potential for solar energy in Europe. KHM Enerji Turizm is one of the leading Turkish enterprises which invests in this field.

Challenges

KHM Enerji Turizm's Çumra Solar Power Plant is spread over a large area of 350 decares, and wanted to provide network coverage for the entire area was seen as a significant challenge in the project initially. The energy balance distribution problem of CCTV security devices that the organization used had to be eliminated as well.

Solutions and Benefits

The company preferred to use Zyxel's solution in the project because it had several advantages, such as central control and management for advanced data, video, and audio networks.

With support from Zyxel and KGB Bilişim for the security camera and network project, KHM Enerji Turizm has renewed its computing infrastructure with the latest technologies supported by artificial intelligence. The organization has gained a much more flexible structure with new generation network solutions that has **XGS4600-32F 28-port GbE L3 Managed Fiber Switch with 4 SFP+ Uplink** as its backbone, and **GS2210-8HP/24HP 8/24-Port Gigabit L2 PoE Switch**, which increases work efficiency.

The new network infrastructure is more flexible and scalable, enabling economical installation with less cable usage for security cameras. GS2210-8HP 8-Port and 24HP 24-Port Gigabit L2 PoE switches support IEEE 802.3af PoE standard and high power-budget that can run multiple powered devices (PD) like 802.11ac wireless APs and IP cameras at the same time, ensuring stable operation of the devices. The network switches feature agile and unified traffic control to manage video, audio, and data networks effectively.

The unified installation tool Zyxel One Network (ZON) utility is used to discover and configure Zyxel switches in the network, allowing users to manage the network on a single platform easily. The ZON utility greatly simplifies the setup process to minimize operational expenses.

The Zyxel **RGS200-12P 12-port Gigabit Managed PoE Switch**,

To protect its investments and provide a safe and secure environment for its employees, the company wanted to install a comprehensive CCTV system. This needed a reliable network that could provide the required connectivity across the site.

Besides, the customer also wanted to manage active network devices, that were integrated with security cameras within the solar plant from a single point optimized structure. The construction was divided into three phases, and Zyxel won the first phase of the construction.

which is an ideal solution for outdoor environments with difficult conditions such as factories, solar power plants, and production facilities, were also used in this project. RGS200 distinguishes itself from its competitors with its metal body and fan-less design feature that complies with IP30 standards. The product performs well even in harsh outdoor environments in temperatures ranging from -40 ° C to 75 ° C. RGS200 can perform a fast failover process in less than 20ms when there are interruptions due to network errors. This guarantees the uninterrupted operation at the power plant. Thanks to its user-friendly, web-based interface, RGS200-12P allows the organization to manage its communication network efficiently.

The integration was successfully completed in a short time. Zyxel's technology helped to eliminate the capacity and energy balance distribution problem of CCTV security devices at the site. The solutions not only allow KHM Enerji Turizm to transmit high-quality video footage from security cameras instantly but also protects against data breaches with high-level network capacity and access security.

Suat Gül, General Manager at KGB Informatics, our partner, said, "At KGB Bilişim, we are delighted to successfully complete the security camera and network technology infrastructure project of the KHM Enerji Turizm's solar power plant with Zyxel Networks. Zyxel's solution fulfilled the company's needs—flexible, strong, and uninterrupted network infrastructure. We have accomplished many successful projects in the Mediterranean region with the support of Zyxel's expert team, and appreciate their help to achieve the goals perfectly one more time."

Products Used

XGS4600-32F • 28-port GbE L3 Managed Fiber Switch with 4 SFP+ Uplink



- Four built-in 10G SFP+ uplinks enable congestion-free, smooth data delivery for high-bandwidth applications
- Dynamic routing protocols such as RIP and OSPF
- Provides high-bandwidth with true physical stacking of up to 4 units
- L2 and L3 stacking capability to fulfill larger network deployment needs
- High resiliency with redundant power supply units

GS2210-8HP/24HP • 8/24-Port Gigabit L2 PoE Switch



- High power budget of 180 W (GS2210-8HP) / 375 W (GS2210-24HP)
- L2 multicast, IGMP snooping, MVR, and voice VLAN for convergence
- Enhanced network protection with IP source guard, DHCP snooping, ARP inspection, and CPU protection
- L2, L3, and L4 filtering, MAC freeze, port isolation, and guest VLAN for improved isolation and access control

RGS200-12P • 12-port Gigabit Managed PoE Switch



- Rugged and reliable design for harsh environments
- Wide-ranging operating temperature design from -40°C to 75°C
- Fanless design and compact mechanism with IP30 standard
- Redundant ring technology with quick failover in less than 20 ms
- Dual power inputs for high network resilience
- Full PoE+ support and high PoE power budget up to 240 W

About Zyxel Networks

Focused on innovation and customer-centricity, Zyxel has been connecting people to the Internet for over 30 years. Our ability to adapt and innovate with networking technology places us at the forefront of creating connectivity for business and home users. We're building the networks of tomorrow, unlocking potential, and meeting the needs of the modern workplace — powering people at work, life, and play. Zyxel, Your Networking Ally.

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