FIBERROAD

Fiberroad driven innovation for clean energy system

Case Background

Last year, Chile hit its 2025 target of producing a fifth of its energy from renewables. So far this year, at least 25% of its energy – and more than twice that at peak hours – its being created from solar and wind plants.

Internet of Energy

To meet the needs of productivity , Chile expedited the deployment of Internet coverage for the energy system. By using internet technology, producers can reduce inefficiencies in existing energy infrastructure by increasing generation, transmission and use of electricity. Making updates to electric infrastructures allows an ease in flow of energy which can maximize its potential, therefore cutting down on any wastage of energy.

Adding IoE technology to the process can also lead to the installation of smart grid technology. Smart grid technology allows users to integrate communication systems, control power and electrical flow, measure usage, monitor the health of their systems, and automate their power systems among other things. Smart grids allow users to make better business decisions and to make forecasts for the future.

Challenge of implementation

High temperature, Dusty, Thunderstorms and other factors. All for devices and daily operation and maintenance be a great challenge.

Different priorities to different data flows or services and providing a level of performance in accordance with predetermined service agreements.

Data security, Facilities protection and network redundancy are undoubtedly be the biggest concern that ensure energy system is reliable and stable.

Fiberroad Enabling Solution

> Support IEEE802.3/802.3u/802.3ab/802.3z/802.3x store and forward mode

> Cache up to 4Mbit for smooth transfer of 4K video

> Support ERPS ring network protocol of ITU G.8032 standard, self-healing time less than 20ms

> Support STP/RSTP/MSTP protocol of international standard IEEE 802.3D/W/S

> Redundant dual power DC/AC power supply are optional, anti-reverse connection, overcurrent protection

24x10/100/1000M Base-Tx with 4xSFP+ Combo Managed Industrial PoE Switch

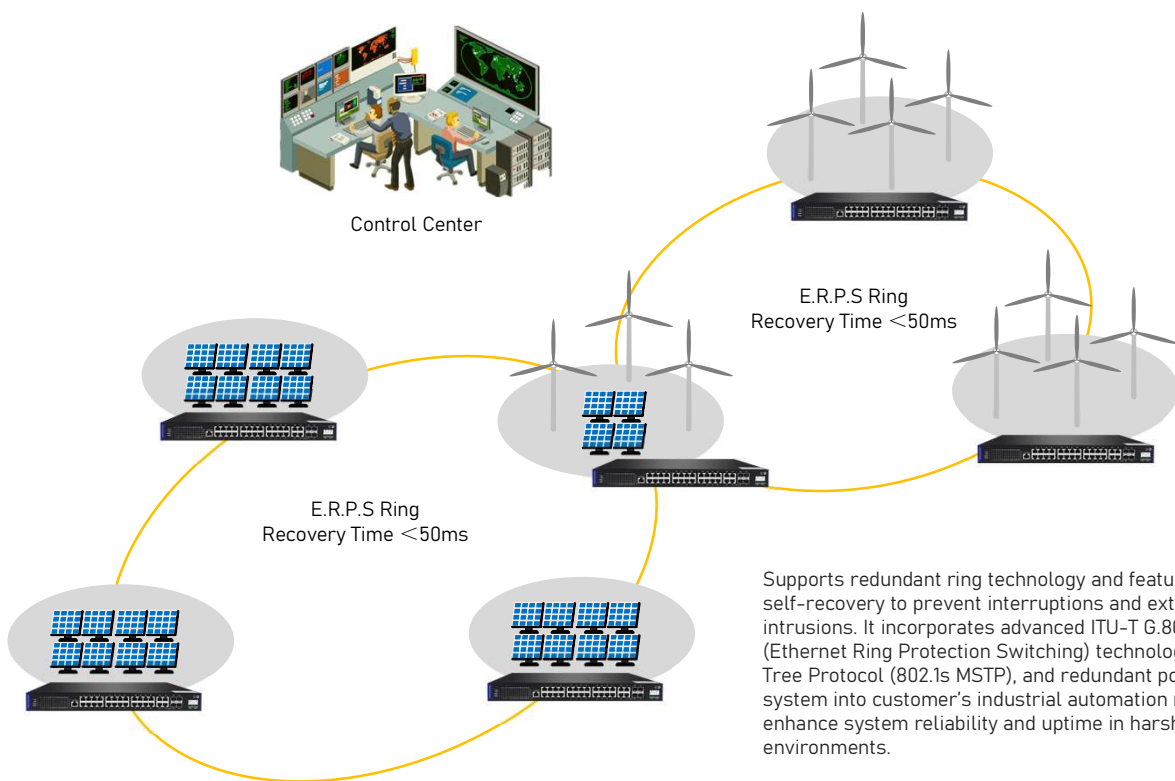| IP40	+75℃ / -40℃	8KV	MAX 250m
Solids Protection	Extreme Temperature	Surge Protection	PoE Extend

Case Diagram

Control Center

E.R.P.S Ring
Recovery Time ＜50ms

E.R.P.S Ring
Recovery Time ＜50ms

Supports redundant ring technology and features, rapidly self-recovery to prevent interruptions and external intrusions. It incorporates advanced ITU-T G.8032 ERPS (Ethernet Ring Protection Switching) technology, Spanning Tree Protocol (802.1s MSTP), and redundant power input system into customer's industrial automation network to enhance system reliability and uptime in harsh factory environments.

Key Applications

COS,DSCP,WRR,SP,WFQ

QoS

Differentiated services is a computer networking architecture that specifies a simple and scalable mechanism for classifying and managing network traffic and providing quality of service (QoS) on modern IP networks.

Total power control
PoE ON/OFF
Port Power Schedule
PoE timing

8 AM → PoE ON → 5 PM → PoE OFF → 8 AM

Advanced PoE management functions , such as weekly PoE power scheduling as well as device auto-checking and auto-reset. The built-in "PoE schedule" for energy saving, enable or disable PoE power feeding for each PoE port during specified time intervals.

The IoT is forecast to add $14 trillion to the global economy by 2030, and the market for digital devices that enable the IoE is likely to grow to $89.4 billion by 2030. Smart sensor networks are relatively inexpensive so they can be broadly deployed at scale resulting in a tremendous amount of data which can be analyzed to reveal ways to optimize grid efficiency.

The IoE is an exciting new frontier in the development of the IoT. Implementing IoE technology will yield opportunities and efficiencies in our grid and electrical power systems that weren't possible before. The results will be beneficial for all participants in the energy market.

Ungraded Solution

Cloud Centralized Management

Industrial Ethernet and PoE Switch Series
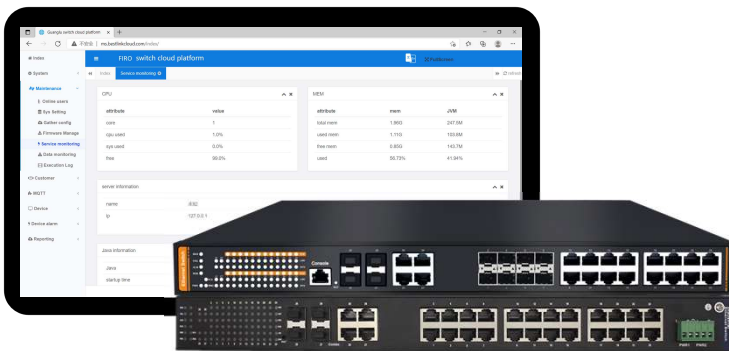
Device Authentication Access

Real-time Device Alarm

Data Encrypted Communication

Standard MQTT Protocol

Three-level User Management

About Fiberroad

Fiberroad committed to developing and manufacturing and selling network communication products. In particular, the focus on fiber optical technologies, Ethernet technologies and the integration of broadband access technologies. With leading-edge technology and high quality service as the driving force, we continued steady growth, and become a top global equipment supplier of innovative last-mile access in the telecommunications market.

As our professional engineering team have devoted ourselves to the R&D for a long time, so that the products have been quiet mature. We have received much popular recognition from our current Telecom operators, Telecom engineering contractors, and Solution Partners in the worldwide. This alliance covers Europe, Asia, the Middle East, Africa, plus North and South America. This global partnership receives direct engineering and technical support from our company .