

ADVANTECH

Essential Connectivity for Automation, Factory Systems, and Equipment Manufacturers

Unmanaged Ethernet Switches



Vertrieb durch



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■ Unmanaged Ethernet Switches Introduction

■ One-Touch VLAN Unmanaged Switches: EKI-2718 Series

■ PROFINET Unmanaged Switches

■ Application Scenario & Success Story



Why Unmanaged Switches Still Matter in Industrial Connectivity

As industrial automation advances, factories and equipment manufacturers face growing demands on their network infrastructure. While managed switches and complex systems offer advanced control, the need for reliable, easy-to-deploy solutions remains strong — especially on the edge. Unmanaged switches continue to play a vital role in delivering essential connectivity for machines, PLCs, and sensors — without the overhead of configuration or monitoring. But deploying them effectively in modern industrial environments isn't without challenges. Here are three key factors shaping their use today:



1. Complex and Diverse Network Setups

As smart factory systems grow, the number of devices like PLCs and sensors increases. Network setups become more complex, making switch deployment and wiring more difficult.



2. Demand for Plug-and-Play Reliability

Many users in the field are not network experts. They require devices that work out of the box with minimal setup while offering stable and reliable connections.



3. Harsh Industrial Environments

Heat, dust, oil, and vibration in factory settings demand rugged, durable switches that can maintain performance under stress.

Behind Every Reliable Product Is a Strong R&D Team

Great products don't happen by chance — they are the result of teamwork, experience, and dedication. Our R&D organization brings together diverse expertise to ensure every unmanaged switch meets the high expectations of industrial users. Our cross-functional development team includes:



Hardware Engineering (HW)

Designs stable, industrial-grade circuits.



Software Engineering (SW)

Skilled in Layer 2 and Layer 3 development, with a strong focus on industrial network security.



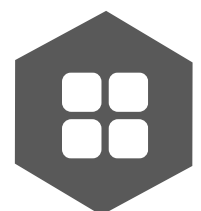
Mechanical Engineering (ME)

Creates durable enclosures for harsh factory environments.



System Quality Assurance (SQA)

Verifies full functionality and performance using comprehensive validation with Ixia.



Application Engineering (AE)

Supports field integration and ensures customer success.



Certification Team

Manages global compliance and industrial certification processes.



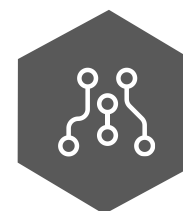
Green Team

Handles RoHS and hazardous substance compliance.



Reliability Team

Conducts long-term durability and stress testing.



Product Management (PM)

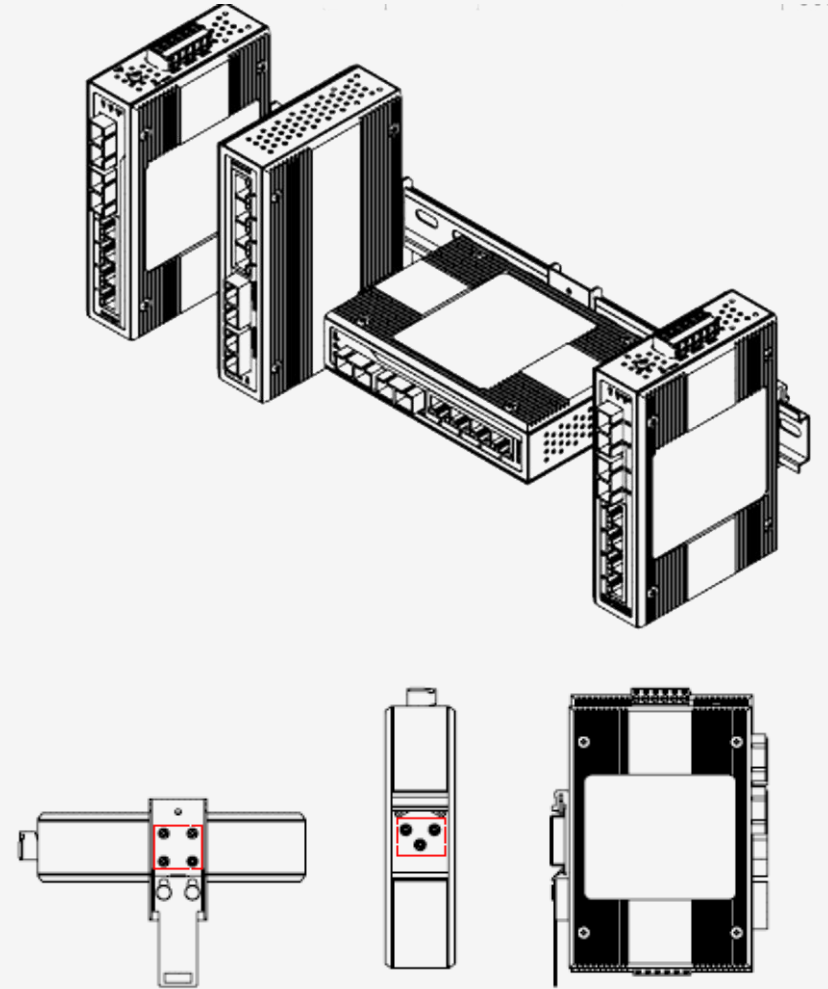
Defines customer-driven features and product roadmap.

The Trusted Classic, Now Even Better

-  **Industrial-grade components for ultimate durability**
Tested to withstand extreme environments with unmatched reliability.
-  **Perfect balance of quality and affordability**
High performance at a competitive price for maximum value.
-  **Full series for diverse industries**
Preferred by countless automation, healthcare, and semiconductor applications worldwide.
-  **Multi-Angle Mounting for Your Flexible Need**
Preferred by countless automation, healthcare, and semiconductor applications worldwide.



Multi-Angle Mounting for Your Flexible Need



Find the Right Fit for Your Factory Network

Economics



EKI-2525/EKI-2528
EKI-2725/EKI-2728



EKI-2705/2706
PoE series

QoS



EKI-2525NI/EKI-2528NI
EKI-2728NI/EKI-5726NI

Port-based VLAN



EKI-2710EI/2716EI
EKI-2718EI/2716GI

2.5G



EKI-2705LX



- Full portfolio
- Affordable price
- Best Selling
- Fast Delivery



- 802.3 af/at supported
- Easy adaptation
- Sifos tested, Trusted in the Field



- For Profinet PLC connectivity
- EMC Level 4
- Profinet Conformance Class A
- Port isolation for security
- High port count
- One-touch setting
- Seamless Turbo-1G Experience
- Easy to upgrade

Product Offering for Your Factory Network

Available Developing Planning EOL

Profinet
Suitable

EKI-2525NI

EMC L4

- 5 10/100Mbps port
- Level 4
- Profinet Conformance Class A
- Single 12~48V Input
- Metal Housing



EKI-2528NI

EMC L4

- 8 10/100Mbps port
- Level 4
- Profinet Conformance Class A
- Single 12~48V Input
- Metal Housing



EKI-2728NI

- 8 GE port
- Level 3
- Profinet Conformance Class A
- Dual 12~48V Input
- Metal Housing



EKI-5726NI

- 16 GE port
- Level 3
- Profinet Conformance Class A
- Dual 12~48V Input
- Metal Housing



EKI-2525I-LA
EKI-2528I-LA

- 5/8 low port counts
- VDC/VAC supported
- C1D2



C1D2

General Purpose

EKI-2000
Economic

- 5~8 Low port counts
- Dual power input
- Metal Housing



EKI-2705/2706
Economic

- 4 FE/GE PoE Port
- 1 or 2 GE uplink port
- Support 802.3at
- Up to 90W
- Dual power w/relay
- Support 24~48V



PoE

EKI-2705LX

- 5*2.5GbE ports
- Provide slim size, DIN-rail
- Support redundant 9~60VDC power input



2.5GbE

EKI-2428G-4CAI

- 24 GE+4 SFP ports
- 19" Rackmount size
- 100~240VAC power input



EKI-2718 series

- 10~18 High port counts
- EMC Level 4
- Dual power input
- One-touch VLAN



EMC L4

Mission Critical

General Purpose

Available

One-Touch VLAN Unmanaged Switches: EKI-2718 Series

Unmanaged Switch **PLUS**



Make Your Mission
Critical Network
More Secure By
One-Touch VLAN

High Port Density Unmanaged
Ethernet Switches



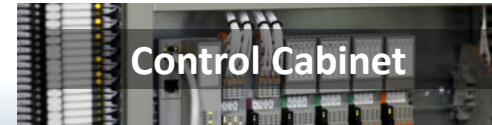
EKI-2718 Series Product Compelling Features



Machine Builder



Manufacturing automation



Control Cabinet

High Density Port

- Up to 18 ports for port-intensive Applications
- Designed for industries requiring high port counts like machine builders, BESS, and EV charging

One-touch VLAN

- One-touch VLAN ON and OFF with DIP switch for group isolation
- 1. VLAN Mode 1: Traffic isolating for enhancing data Security
- 2. VLAN Mode 2: Task management based on functionalities



Rugged Design

- Resistant to higher electromagnetic interferences with **EMC Level 4** protection for uninterrupted operation
- 6KV LAN Surge lighting protection 
- Ideal for lightning-prone outdoor setups, like energy storage or charging stations



DIP switch



EMC Level 4



Port-based VLAN
X-Ring Redundancy



Wide temp.

EKI-2716EI/
EKI-2716GI



EKI-2710E-2CI



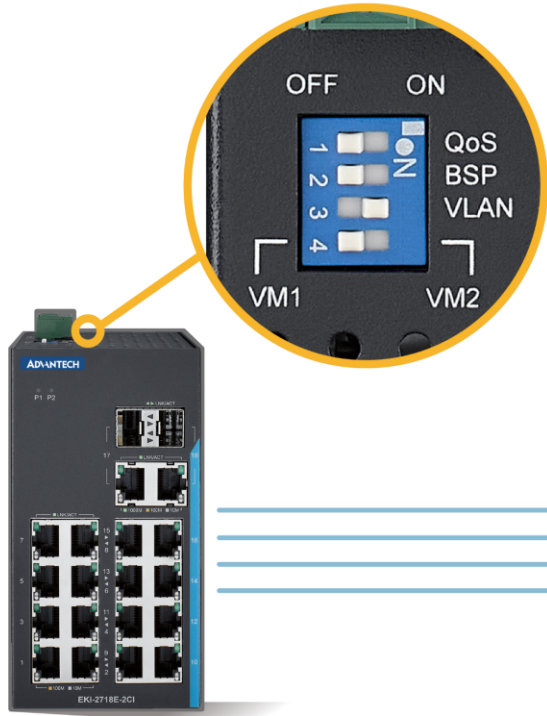
EKI-2718E-2CI



Unmanaged Switch PLUS

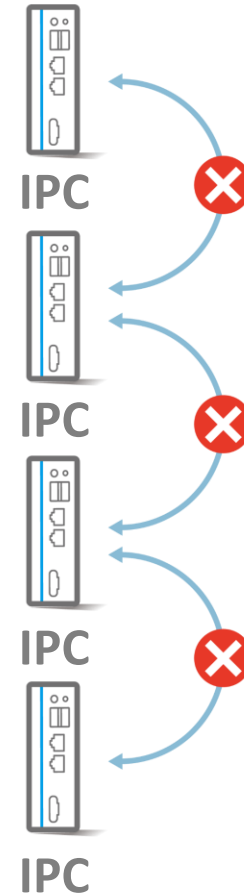
VLAN Mode 1 - To Make Each Port Isolated

> VLAN Isolation Mode



DIP switch VM 1

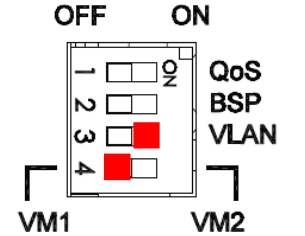
EKI-2718E-2CI



Port isolated
The other ports
not accessible

DIP Switch

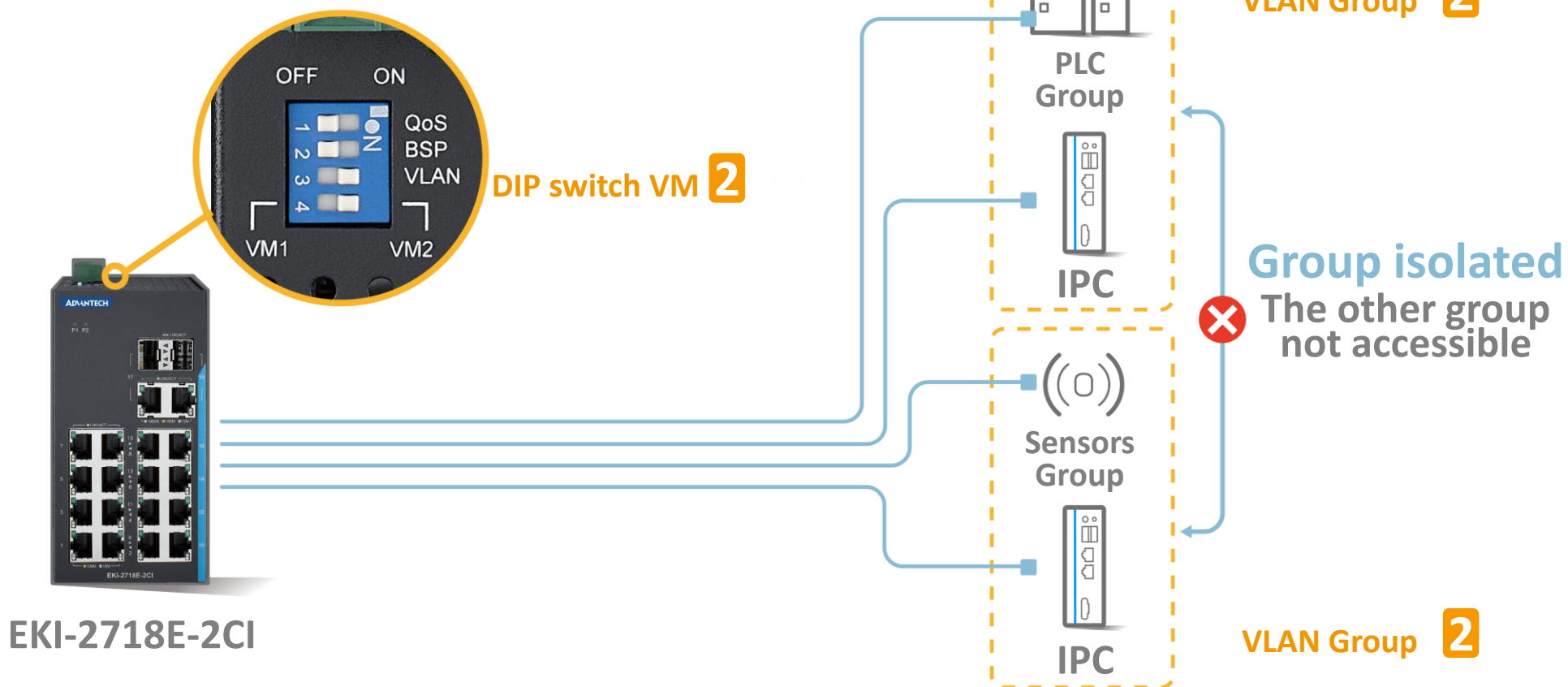
This series provide 4-pin DIP switches for function setting. DIP switch definition is listed as follows:



Pin	Function	Setting	Description										
1	QoS	ON	Switch the DIP to "ON" to activate Quality of Service for managing packet priorities. <table><tr><td>CoS Priority</td><td>7,6</td><td>5,4</td><td>3,2</td><td>1,0</td></tr><tr><td>WRR</td><td>8</td><td>4</td><td>2</td><td>1</td></tr></table>	CoS Priority	7,6	5,4	3,2	1,0	WRR	8	4	2	1
CoS Priority	7,6	5,4	3,2	1,0									
WRR	8	4	2	1									
2	BSP	ON	Switch the DIP to "ON" to activate broadcast storm protection for all ports, limiting the threshold to be 2000 broadcast packets/second.										
3	VLAN	ON	Switch the DIP to "ON" to activate VLAN. (running by the following mode options.)										
4	VLAN Mode 1	VM1	Switch the DIP to the "left" position to activate VLAN Mode 1, Port Isolated Mode. All ports are isolated from each other, with only Uplink Ports 17 & 18 interconnected with other ports.										
	VLAN Mode 2	VM2	Switch the DIP to the "right" position to activate VLAN Mode 2, 2-Grouping Mode. This divides all ports into two separate groups, ensuring no interconnection between them. Group 1 comprises Ports 1-8 with uplink port 17, while Group 2 comprises Ports 9-16, with uplink port 18.										

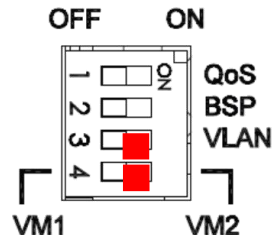
VLAN Mode 2 - To Divide Ports into 2 Groups

> VLAN Grouping Mode



DIP Switch

This series provide 4-pin DIP switches for function setting. DIP switch definition is listed as follows:



Pin	Function	Setting	Description										
1	QoS	ON	Switch the DIP to "ON" to activate Quality of Service for managing packet priorities. <table><tr><td>CoS Priority</td><td>7,6</td><td>5,4</td><td>3,2</td><td>1,0</td></tr><tr><td>WRR</td><td>8</td><td>4</td><td>2</td><td>1</td></tr></table>	CoS Priority	7,6	5,4	3,2	1,0	WRR	8	4	2	1
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EKI-2718 Series High-Port Count Model Lists

Model		EKI-2710E-2CI	EKI-2716EI	EKI-2718E-2CI	EKI-2716GI
Port #	10/100Mbps	8	16	16	-
	10/100/1000Mbps	2 (combo)	-	2 (combo)	16
	SFX	2 (combo)	-	2 (combo)	-
Operation Temperature		-40 to 75°C			
Dimension (mm)		40 x 140 x 105	72 x 140 x 105		
W x H x D					
Mounting		Din-Rail/Wall			
IP Rating		IP30			
Input Voltage		12~48 VDC			
		Redundant dual input			
Protection (EMC Level 4)	ESD	Contact: 8KV Air: 15KV			
	EFT	LAN: 2KV Power: 4KV			
	Surge	Power: Line-to-Earth: 4KV Line-to-Line: 2KV LAN: 6KV			
	Overload current	v			
	Power Reverse	v			
Others		DIP switch with QoS/BSP/port-based VLAN			
Sample Available		Now	Now	Now	April/2025
Mass Production		Nov./2024	Dec./2024	Feb./2025	Aug./2025



EKI-2710E-2CI



EKI-2716EI



EKI-2718E-2CI



EKI-2716GI

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PROFINET Unmanaged Switches

Unmanaged Switch **PLUS**

**Rugged. Reliable.
Ready for PROFINET**



**EKI-2525NI, EKI-2528NI,
EKI-2728NI, EKI-5726NI**

PROFINET Conformance Class A
Netload Tested
EMC Level 4 Protection
Wide Operating Temperature



3 Key Feature Highlights



Supports PROFINET Conformance Class A to Prioritize Traffic

Provides data flow prioritization for automation PROFINET Conformance Class A protocol ensuring seamless integration into your industrial network.



High Protection: Level 4 on ESD/EFT/Surge

Our unmanaged Ethernet switches offer high protection with Level 4 certification on ESD/EFT/surge, providing robust protection against electrical disturbances, ensuring uninterrupted operations.



Slim and Compact Size

Enhance industrial automation with the slim and compact unmanaged Ethernet switches. Experience seamless network connectivity without sacrificing space. Complies with IEC 61131-2, applicable PLCs, and associated peripherals.

Profinet Conformance Classes at a Glance

Feature	Profinet Suitable	A	B	C
Profinet packet prioritization	✓	✓	✓	✓
Real-Time Data Exchange-cycle times down to 1ms		✓	✓	✓
Alarms and Diagnostics		✓	✓	✓
Network Topology Support		✓	✓	✓
SNMP Support			✓	✓
Real-Time Data Exchange-cycle times down to 31.25us				✓
Product recommend	EKI-2525NI Series		EKI-5526CI-PN Series	

Supporting Profinet CC-A Applications with Enhanced Traffic Management

Feature	Profinet Suitable Switch	Regular Unmanaged Switch
Profinet Conformance Class A (CC-A) Support	✓ Suitable for CC-A environments	Not suitable for CC-A
Quality of Service (QoS)	✓ Yes! Ensures Profinet packet prioritization	No traffic prioritization
LLDP/PTCP Packet Filtering	✓ Yes. Filters LLDP/PTCP packets	Transparent all Packet without any
Suitability for Profinet CC-A Networks	✓ Recommended for CC-A environments	Not recommended for CC-A networks
SNMP Support for Topology Mapping	No. Unmanaged switch does not support SNMP	No. Unmanaged switch does not support SNMP
Suitability for Profinet CC-B/C Networks	Not recommended (Topology mapping issues)	Not recommended for CC-B/C networks

Netload Test

A Netload Test is a network performance testing method that simulates high traffic loads to evaluate how network equipment or systems perform under stress. In order to achieve a common approach to evaluate the behavior of PROFINET IO nodes a netload test is used to provide common test conditions. This test generates a large number of packets and monitors key performance parameters, including:

- **Throughput:** The amount of data the network can handle under high load.
- **Latency:** The time it takes for a packet to travel from the source to the destination.
- **Jitter:** The variation in packet delay, which reflects network stability.
- **Packet Loss:** The percentage of packets lost during transmission under heavy traffic.

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PI has about **1800 members worldwide**. They include all leading automation vendors, plus many end users and other organizations such as universities around the world who profit from advanced information to achieve a competitive edge in the market.

The most important goals of PI are the continuous **development of PROFIBUS and PROFINET technology**, know-how transfer and protection of investment for end users.

Members of the organization can be vendors of hardware, software and systems as well as end users and operators, scientific institutes and federations provided they support the purposes of PI and the respective Regional PI Association (RPA).

Vendor members benefit from the advice available from experts and there is a continuous series of marketing and educational activities globally. Most Regional PI Associations are very active with common marketing and educational events such as trade fairs, seminars, conferences, workshops and internet based activities such as webinars.

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- **Product promotion** and sales through common and **global marketing projects**, including the on-line [PRODUCT Finder](#)
- Free use of **trademark logos** and marketing materials
- **Network implementation and maintenance** supported by experts and first-hand information
- Information and **training**: educational opportunities including training and a global network of PICCs and PITCs
- Faster and easier product development by **free use of patents and technical documentations**
- **Savings in product development**: qualified certification support and cost-efficient certificates for tested products

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Enabling an Intelligent Planet

ADVANTECH



Profinet Unmanaged Switches

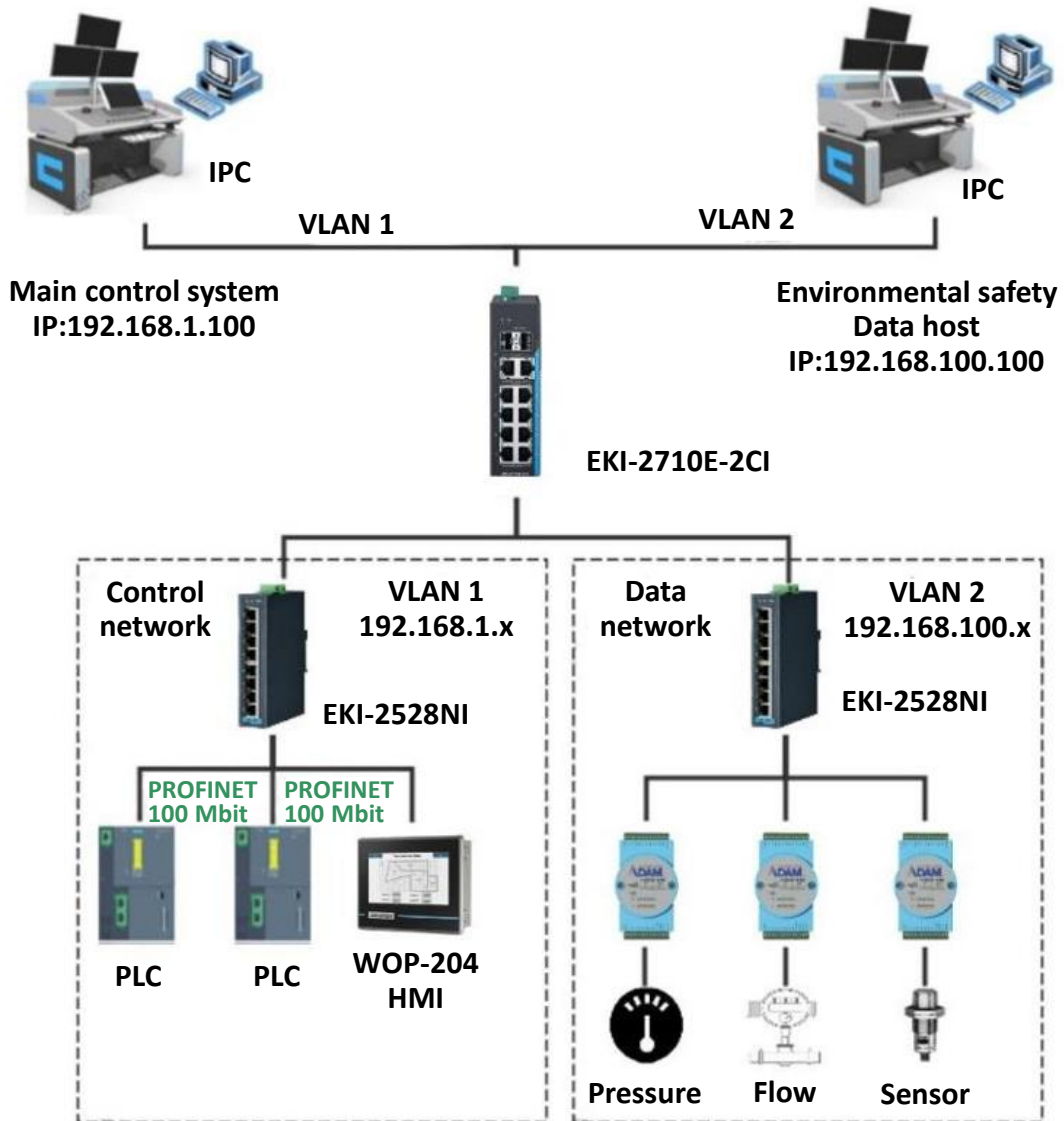
Model		EKI-2525NI-A	EKI-2528NI-A	EKI-2728NI-A	EKI-5726NI-A
Port #	10/100Mbps	5	8	-	-
	10/100/1000Mbps	-	-	8	16
Operation Temperature		-40~75℃			
Input Voltage		12~48VDC			
Dimension (MM)		30x 120x 95	30x140x95	30x140x95	74x120x84
WxHxD					
Mounting		Din-Rail / Wall Mount			
IP Rating		IP30			
IEC 61000-4-2 (ESD)		Level 4	Level 4	Level 3	Level 3
IEC 61000-4-4 (EFT)		Level 4	Level 4	Level 3	Level 3
IEC 61000-4-5 (Surge)		Level 4	Level 4	Level 3	Level 3
Certification		Level 4	Level 4	Level 3	Level 3
PROFINET		CC-A	CC-A	CC-A	CC-A



Application Scenario & Success Story



Application Scenario



- **The Rise of Industrial IoT** : Connecting devices is the key to achieving high-efficiency automated control.
- **Types of Industrial Switches** :
 - **Managed Switch** : Suitable for complex communication between devices and factory networks
 - **Unmanaged Switch** : Simple and ideal for internal networks of general equipment
- **Customer Requirements** : Efficient connection of internal factory networks and devices
- **Challenges** : Unmanaged Switches cannot meet the demand of complex network requirements
- **EKI-2718 Series Network Solutions:**
 - Balances production efficiency and cost savings
 - Designed for ease of use and rapid deployment

Adopting PoE Technology in Automotive Factory Automation

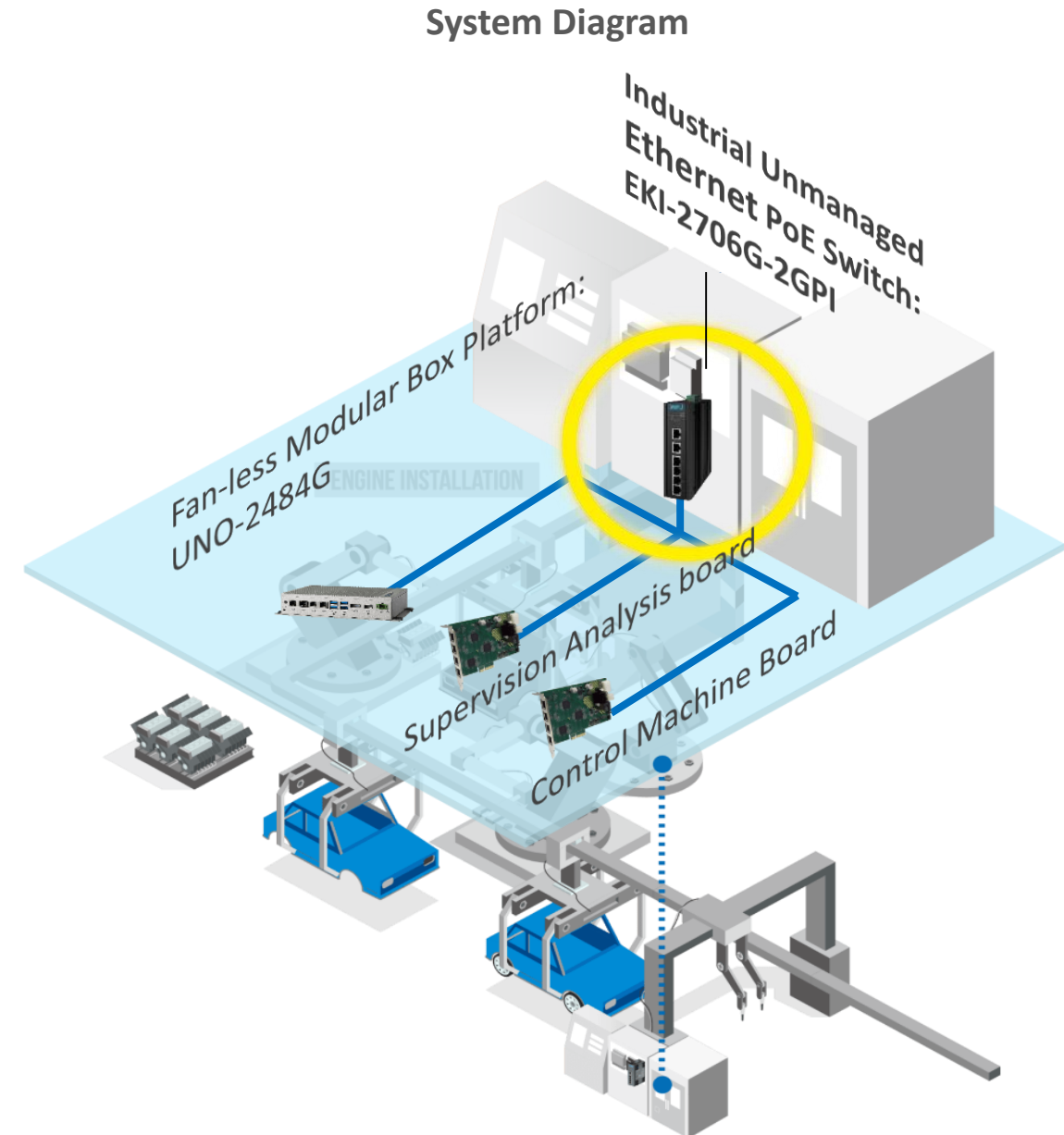


Project Background & Requirements

Due to the increasing number of PoE devices (PD) and IP base devices in factory, the demand of PoE switches as power supply equipment (PSE) becomes more common under the trend of IIoT.

Advantech Solution

As a cost effective solution that supports Power over Ethernet and data transmission, EKI-2706G-2GPI supports 2+ 4 PoE 10/100/1000Mbps ports with robust design that adapts 12/24/48VDC power input. The compact size and plug-n-play feature allow for easy integration with other IP-based devices.





Project Background & Requirements

- Wide Temperature and robust design for mission critical area
- How to Maximize Space Utilization in Small charger cabinet
- Global service and longevity life cycle
- Enable Systems to Run Simultaneously Without Interrupting Each Other

Advantech Solution

- Adopting EKI-2525I Ethernet Switches
- Perform without issue across an extreme temperature range
- Multiple site manufacture and global service

System Diagram





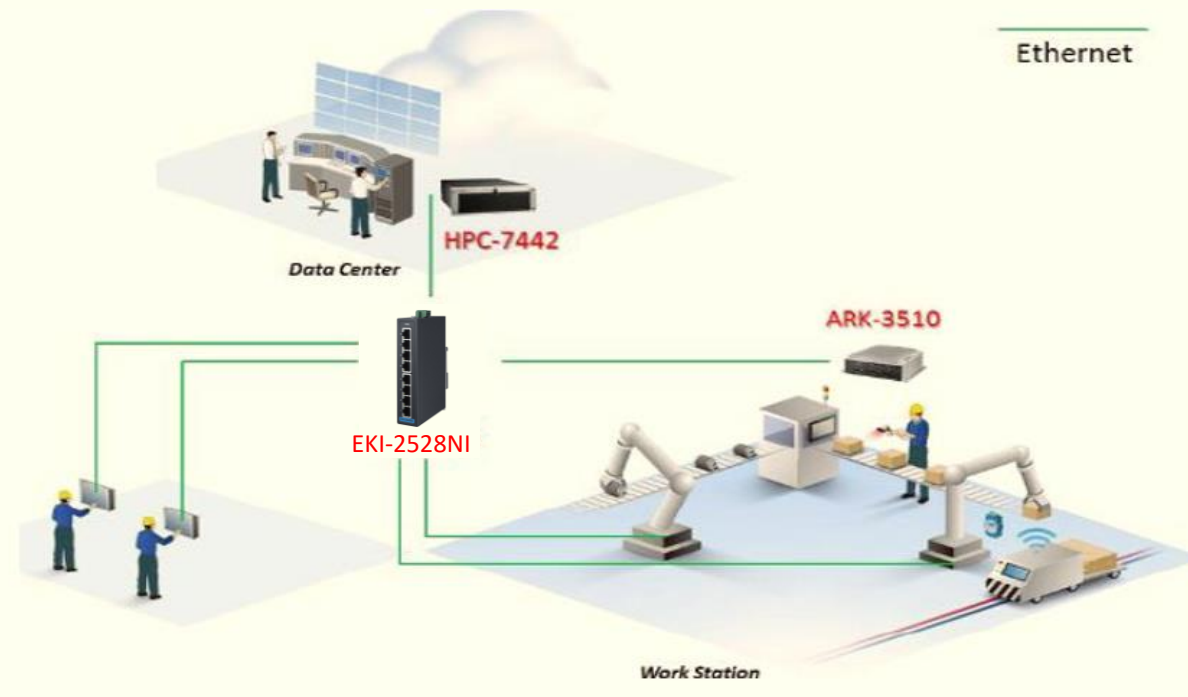
Project Background & Requirements

- Interconnected network was sought to connect all devices, machines, PLCs together on the shop floor
- Electromagnetic interference needed to be avoided
- Harsh factory environment

Why Advantech?

- With the help of EKI-2528NI switch, field devices and machines were interconnected so that data could be transmitted via IP to the central control center for storage, monitoring, and analysis
- EKI-2528NI provides flexible compatibility for linking automation devices together, and they are effective for isolating electromagnetic interferences to ensure network stability
- EKI-2528NI's mean time between failures (MTBF) is over more than approximately 3 million hours, which offers greater network reliability compared with competing products

System Diagram





Project Background & Requirements

In traditional food factories, high temperature and humidity can disrupt data transmission and erode equipment durability. Devices such as touch computers and switches can't translate data and work efficiently due to the factory environment.

Advantech Solution

Advantech cooperated with system integrators to provide a series of devices with an extended temperature range (-40~75°C) for MES. These products were designed to endure the high temperatures common in food factories while providing efficient data transmission.

System Diagram



[Read the Story](#)





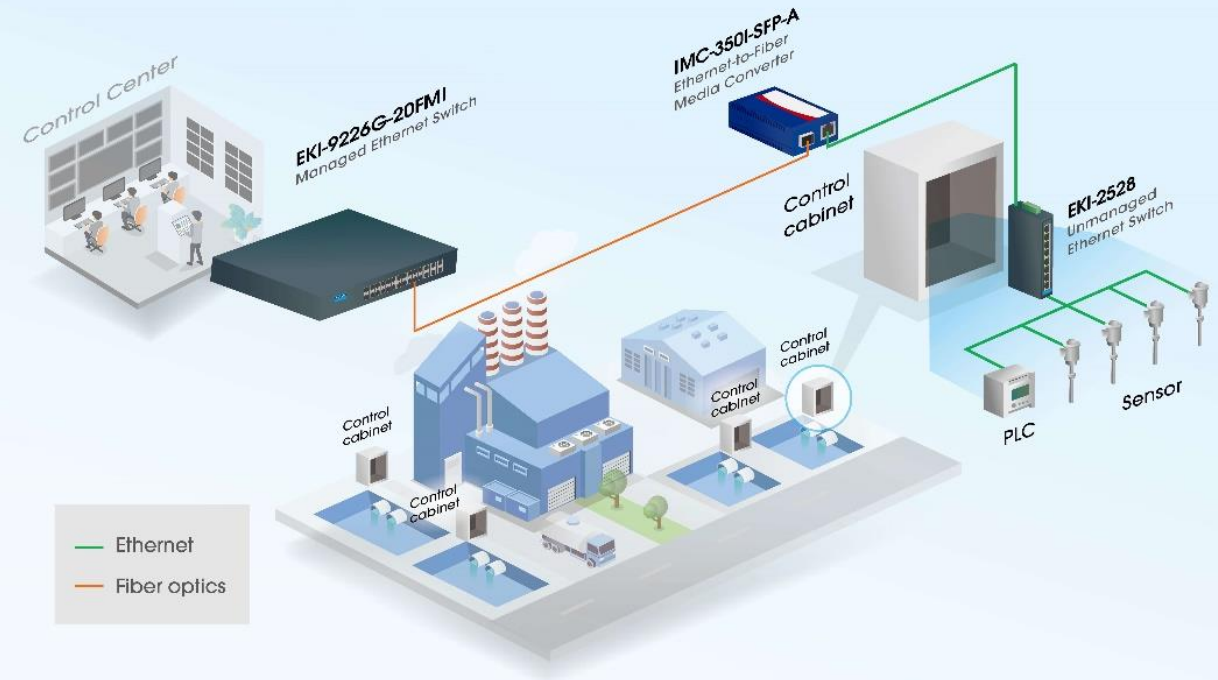
Project background and requirement:

- The factory is located in a low-lying area, rendering it vulnerable to excess water accumulation which can interrupt production.
- The plant required an automated, remote monitoring system for discharged wastewater; and the systems for each workshop had to be linked so that they could be overseen together.
- The long distance between each workshop and the control room raises challenges on reliability, latency, and security of transmitting data.

Solution:

- IMC-350I-SFP-A industrial media converter can transmit data for distances up to 80 kilometers, with its wide operating temperature range -25 to 85°C.
- EKI-2528 comes with compact design, rail mounting for easy installation in cabinets, and redundant power input design to avoid equipment failure from power interruption.
- EKI-9226G-20FMI industrial Ethernet managed switch features a multi-optical port design, allowing it to simultaneously access the multiple fiber-optic signals from each workshop.

System Diagram



[Read the Story](#)

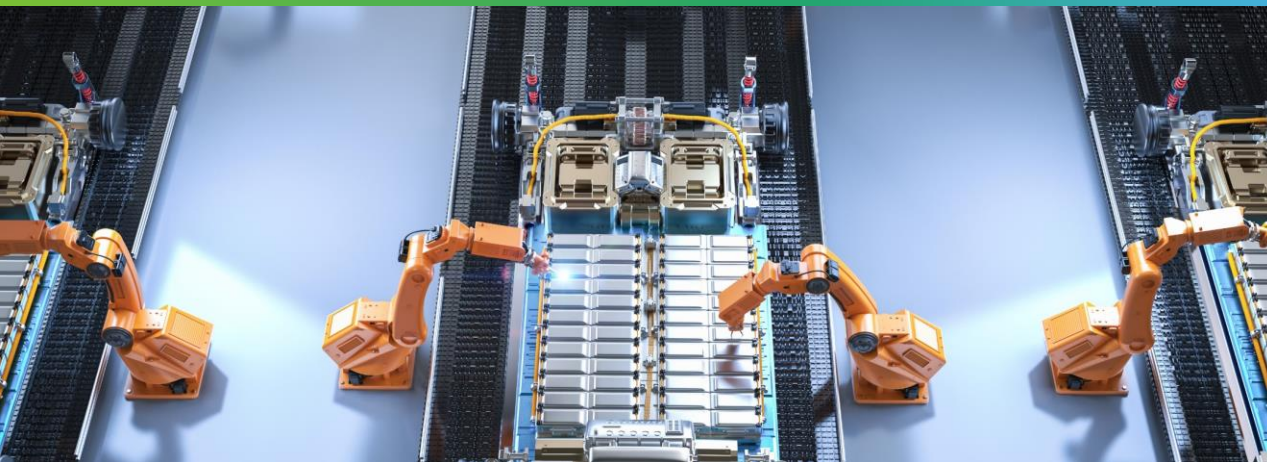


Automating Production Line RGVs with Wi-Fi Connectivity for EV Battery Manufacturing



Location: China

Application: RGV System



Project background and requirement:

- An EV battery manufacturer is keen to upgrade the factory infrastructure and production processes for maximum efficiency and productivity.
- Wanting to automate and expedite battery cell handling, the manufacturer planned to upgrade their factory production lines with RGV (rail-guided vehicle) trolleys.

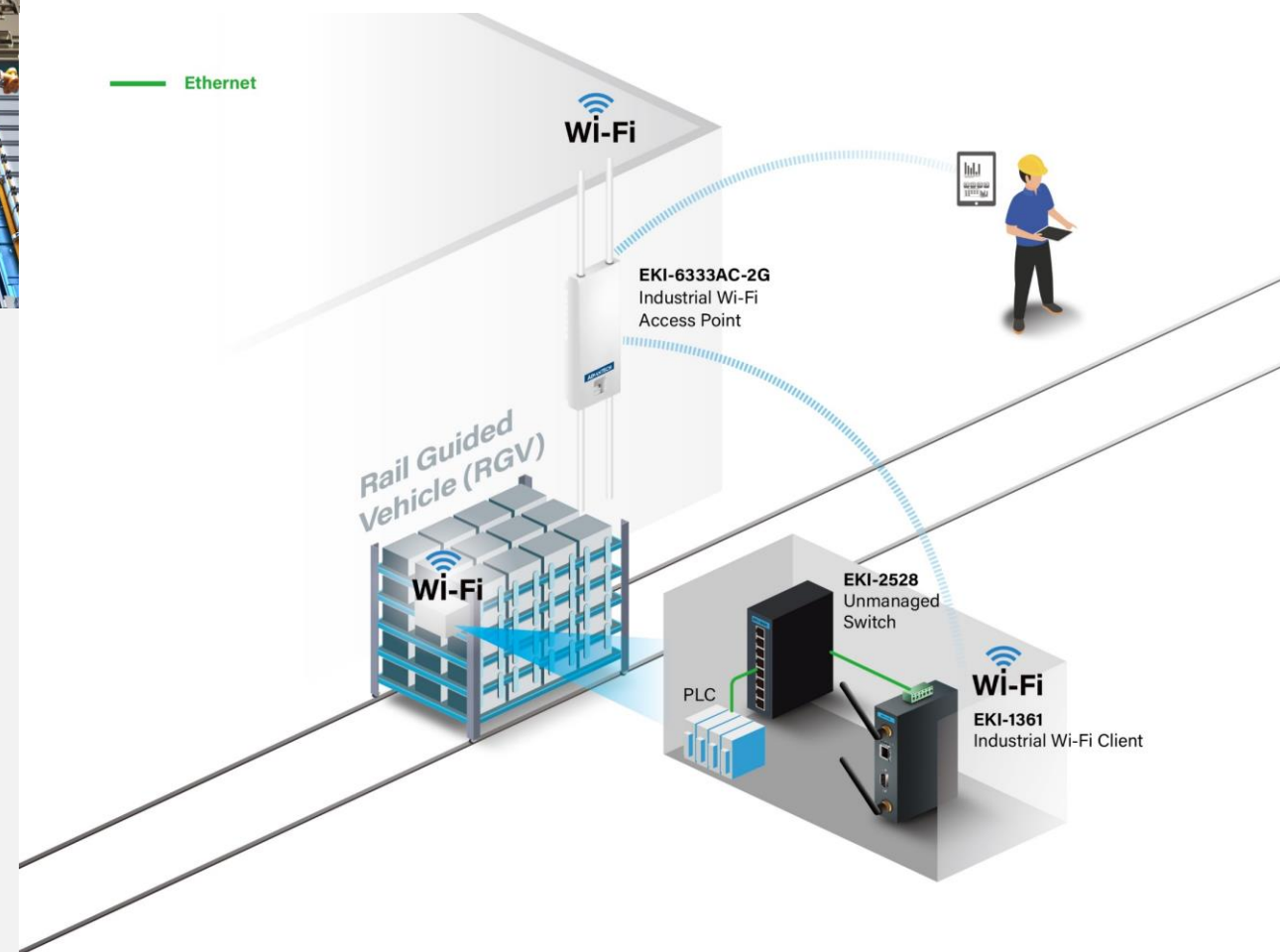
Solution:

- EKI-1361 clients offer serial-to-Wi-Fi, Ethernet-to-Wi-Fi, and 2.4G/5G support, increasing the flexibility of solutions and delivering the wireless communication and network connectivity needed for RGV applications.
- On each production line, an EKI-6333AC-2G Wi-Fi AP was installed as a wireless override and connected to the scheduling system host via a network cable.

Benefits:

- The RGV logistics solution standardized EV battery production and enabled seamless communication with Advantech's Wi-Fi devices, ensuring uninterrupted network connectivity throughout the factory.
- RGV trolleys replaced manual handling, reducing errors and lowering labor costs while ensuring high precision and speed in material handling tasks.

System Diagram



[Read the Story](#)

