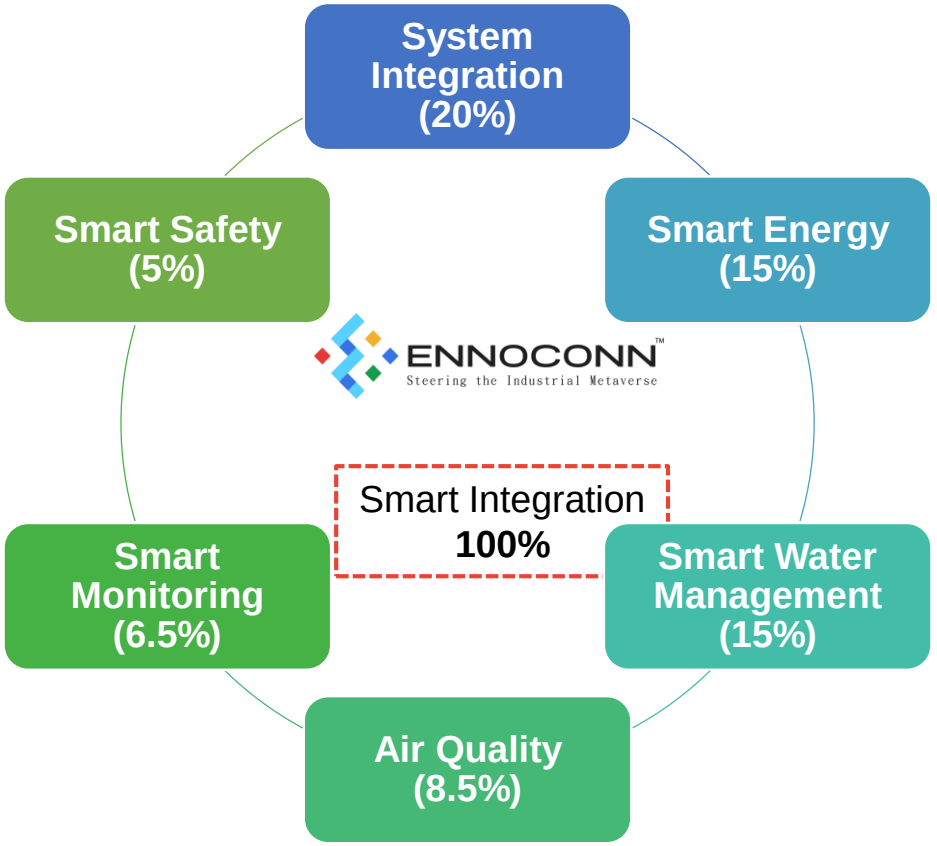

Ennoconn
華漢科技 Solutions For Smart Future
Ennoconn Corporation
AI Smart Building Solutions
December 9th, 2024

Integrates IoT systems for automation, management, and optimization of building performance. Offers seamless services with minimal resource consumption, enhancing environmental friendliness.



Level	Floor Area Ratio (FAR) Incentive
Diamond	10%
Gold	8%
Silver	6%
Bronze	4%
Certified	2%

Smart Building Platform

Eight Smart Building Indicators

Incentives and Asset Enhancement

12 Smart interoperable Systems

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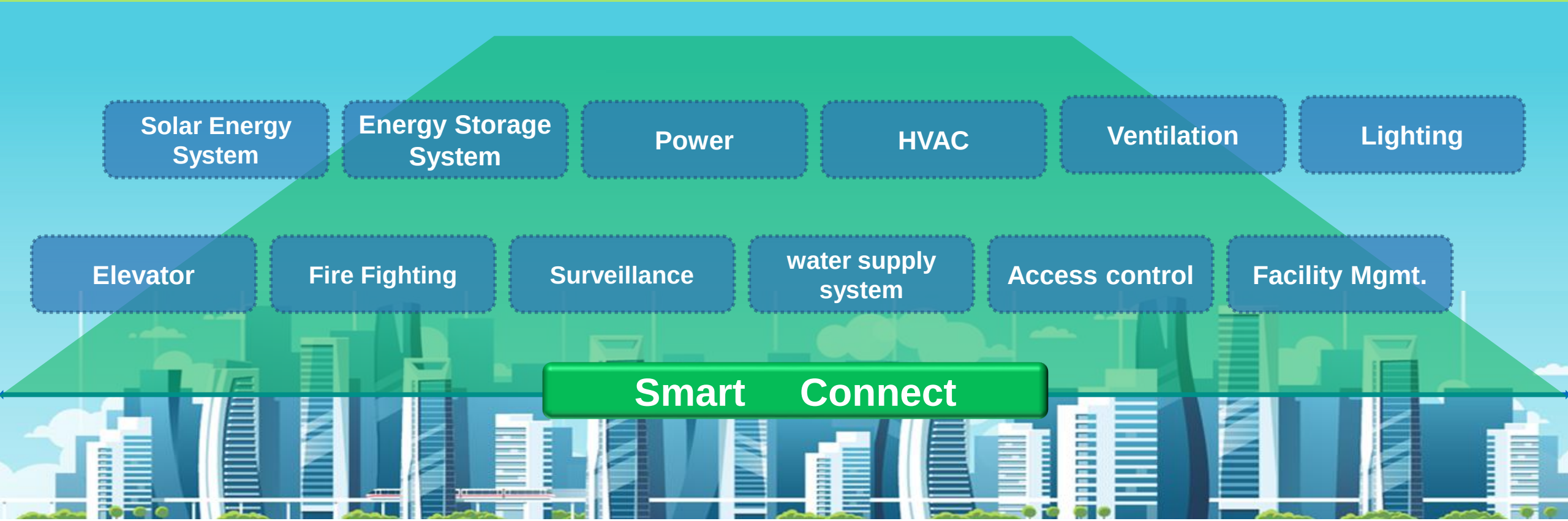
EMS Monitor & Control Central



3 **Communication Protocol:** MQTT

2 **Information Communication:** IoT, Sensor, Gateway, Edge Server

1 SIEMENS Schneider Electric Honeywell PHILIPS FUJITEC Panasonic Carrier OTIS Johnson Controls Wonderware

Smart Building Integration System

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1	2	3	4	5	6	7
POWER INTEGRATION & MONITORING	**HVAC INTEGRATION & MONITORING**	**LIGHTING INTEGRATION & MONITORING**	**PLUMBING INTEGRATION & MONITORING**	**ENVIRONMENTAL INFORMATION INTEGRATION & MONITORING**	**RENEWABLE ENERGY INTEGRATION & MONITORING**	**POWER SYSTEMS INTEGRATION & MONITORING**
• SMART METER • DISTRIBUTION PANEL • GENERATOR • ELECTRIC VEHICLE CHARGING STATION	• CHILLER SYSTEM • AIR CONDITIONING VENTILATION SYSTEM • AIR CONDITIONING PUMP SYSTEM • HOT WATER SYSTEM • VENTILATION SYSTEM	• TWO-WIRE LIGHTING • SMART LIGHTING FIXTURES • SMART STREET LIGHTS	• SUMP PUMP • PRESSURE PUMP • WASTEWATER PUMP • STORM WATER PUMP	• TEMPERATURE & HUMIDITY • ILLUMINANCE • CO • CO2 • PM2.5	• SOLAR INVERTER • WIND POWER GENERATION • ENERGY STORAGE SYSTEM	• ELEVATOR • FAN

Digital Twin

According to ISO 30173, a digital twin is the connection between a real building and a digital simulation platform, creating an accurate digital replica of the building.

In addition to ISO 30173, Ennoconn digital twin technology uses the IEA-certified building environment and energy consumption simulator. It follows ASHRAE 90.1 standards for energy simulation, predicting building behavior. With on-site sensors, the "living digital twin" provides data to train AI models, evolving with the building towards near-zero energy.

Success Case: AI Digital Twins for Building Operation

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〈TSMC F12P7 Plant〉

Control facility：AHU

- Integrated Honeywell HVAC system & directly control AHUs.
- **Energy Saving 6%**
- **Deploy AI only take 7 days.**
- The cost only 1/4 of the original AI implementation.
- **Intelligent Living Space Design Competition Gold Award**

〈Hualien Tzu Chi Hospital〉

Control facility：AHU

- Integrated Honeywell HVAC system and directly control AHUs.
- **Energy Saving 9.8%**

〈Taipei Far Eastern Telecom Park〉 Google Office

Control facility：FCU

- Integrated Siemens HVAC system and directly control FCUs.
- **Energy Saving 10%**
- Through **AI to control 1042 FCUs every 15 mins.**

Digital Twin - AI Application Achievements

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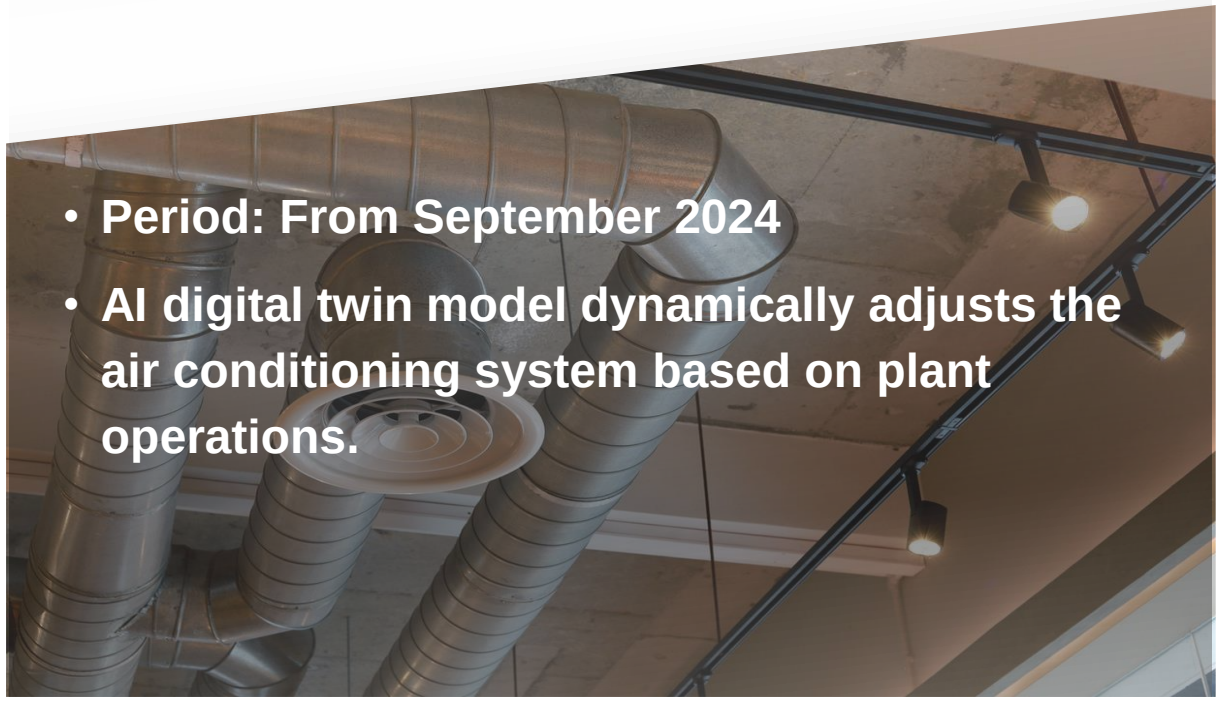
◆ Air Conditioning Energy Savings on the Air Side (Foxconn Tiger Leap Factory 4F)

- ✓ Digital Twin AI Automatic Control
- ✓ Estimated energy efficiency improvement of approximately 8%



- Period: From September 2024
- AI digital twin model dynamically adjusts the air conditioning system based on plant operations.

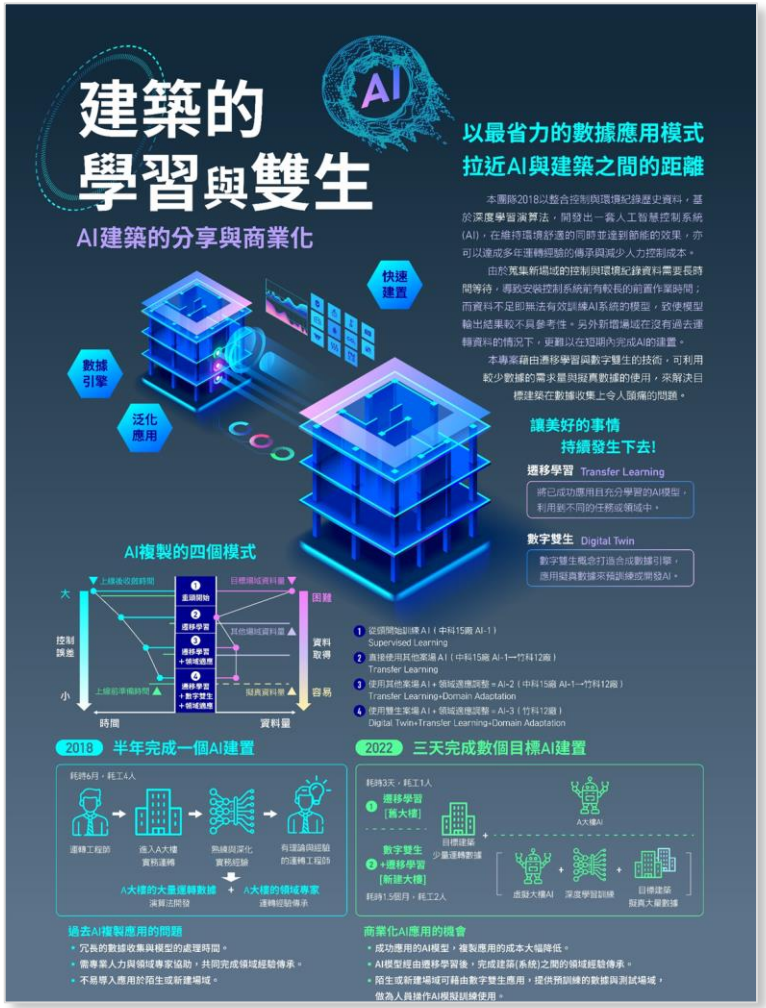
◆ Air Conditioning Water-side Energy Saving (Entire Area)

- ✓ Optimizing the Water-side System
- ✓ Energy Efficiency Savings -12.45% (2024/05~11)
- ✓ Energy Savings: 294,152 kWh (2024/05~11)

- Period：2024/05~2024/11

Award-Winning Case

■ **MOI Intelligent Living Space Design Competition**



2022 National First Place

Client: TSMC

內政部建築研究所

第十五屆「創意狂想 巢向未來」
智慧化居住空間創意競賽

「巢向未來組」

金 獎

台灣積體製造股份有限公司 公共設施服務部

鍾振武、梁健政、杜昕倫、王俊勝、黃敬群、
賴欣儀、蔡明達、陳世禎、張育銘

作品名稱：建築的學習與雙生

所長
王榮進

中 華 民 國 111 年 11 月 16 日

資料來源：內政部建研所


Innoconn
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Ennoconn Optimizing Product Portfolio & Profitability

Q1 2024 Gross Margin 20.1% YoY +0.8ppt.

Currency: NTD

Gross Margin	Portfolio	Q1 2023 Revenue	Q1 2023 Proportion	Q1 2024 Revenue	Q1 2024 Proportion	Increase/ Decrease
1 10% ~ 25%	IIOT + SI	16.1B	57%	16.6B	51%	-6%
2 25% ~ 35%	IIOT + AI	9.9B	34%	12.2B	37%	+3%
3 > 35%	AIOT + CLOUD	2.5B	9%	3.9B	12%	+3%
	CONSOLIDATED REVENUE	28.5B	100%	32.7B	100%	YoY +14.8%
	CONSOLIDATED GROSS PROFIT	5.5B	19.3%	6.6B	20.1%	YoY +0.8ppt.

Ennoconn Q3 2024 Cloud + Edge AI Revenue 3.96B

Revenue 3.96B Increase 790M YoY +24.9%

Unit: TWD

	2024Q2	2024Q3	QoQ
Products and Services	Group Revenue	Group Revenue	Group Revenue
Cloud AI + Edge AI	**3.17B**	**3.96B**	**24.9%**

1 Cloud AI Computing

Database Application SW App Interface

1 Cloud AI Computing	2024Q2	2024Q3	QoQ
Products and Services	Revenue	Revenue	Revenue
AI HW + SW + Service	**1.48B**	**198M**	**31.1%**

2 Edge AI Computing

AI Server AI Workstation AI Device

2 Edge AI Computing	2024Q2	2024Q3	YoY
AI HW + SW + Service	Revenue	Revenue	Revenue
AI Server	**490M**	**590M**	**20.4%**
AI Workstation	**820M**	**980M**	**19.5%**
AI Device	**380M**	**450M**	**18.4%**
Total	**1.69B**	**2.02B**	**19.5%**

Thank you