

Enabling Future-Ready Healthcare Innovation

Through Energy Intelligence and Operational Resilience

Nopadol Sootsawat

Building Automation Division, Delta Electronics (Thailand) PCL

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Thailand Healthcare Data Landscape Overview

Population & Healthcare Demand



Total Population

71.67m

2025 census estimate ⁽¹⁾



Aged 65+

15.36 %

≈11m people
Aging society pressure rising ⁽²⁾



Inpatient Facilities

1,385

171,341 total beds nationwide ⁽³⁾



OPD Visit / yr

176.5 m

Outpatient Demand for
Infrastructure Planning ⁽⁴⁾

Energy Demand

Energy Consumption



Healthcare Sector

1,217m

kwh/yr ⁽⁵⁾



EUI Range

200-500

kwh/m²/yr ⁽⁶⁾

Largest Energy Consumption⁽⁷⁾



HVAC System

50-60 %

of total use



Operating Room

24/7

High-Intensity Load

Renewable Energy Progress

67%

Health units with solar installation reported ⁽⁸⁾

1,252/1,857

“ **The future of healthcare infrastructure must be intelligent, resilient, and sustainable.** ”



Key Challenges Facing Healthcare Organizations

Low-carbon Healthcare

- Rising Energy Costs in Hospitals
- Lack of Real-Time Energy Visibility
- Aging Infrastructure and Inefficient Building Systems

Climate-Resilient Healthcare

- Increasing Climate and Environmental Risks
- Indoor Environmental Quality Challenges
- Infection Prevention and Healthcare Safety Pressure

Sustainable Healthcare Operations

- Healthcare Workforce Shortages
- Inefficient Hospital Flow and Resource Utilization
- Limited Visibility into Assets and Logistics

Building Through Three Strategic Pillars

**Low-carbon
Healthcare**

**Climate-
Resilient
Healthcare**

**Sustainable
Healthcare
Operations**

**Smart Energy &
Decarbonization**

**Smart Safety &
Resilience**

**Smart Logistics &
Operational
Efficiency**

Delivering Value Across Healthcare Stakeholders



Stronger ESG
Positioning

Lower
Operational
Costs

Data-Driven
Decarbonization

Proactive Risk
Detection

Better
Environmental
Monitoring

Climate-Ready
Infrastructure
Operations

Faster Access to
Critical
Equipment

Reduced
Operational
Bottlenecks

Improved Patient
Experience &
Better Workforce

**Smart Energy &
Decarbonization**

**Smart Safety &
Resilience**

**Smart Logistics &
Operational
Efficiency**

Smart Energy & Decarbonization

Pursue Low Carbon Energy Transition



Centralized Intelligent Monitoring



Real-Time Energy Visibility



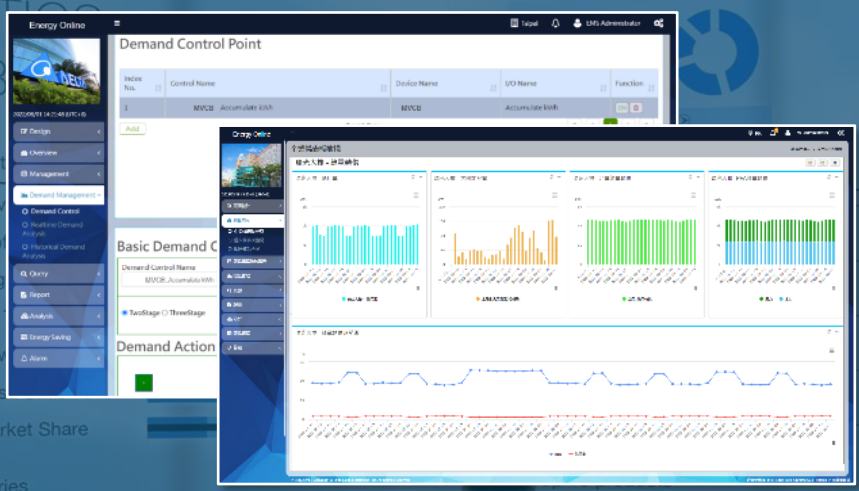
Modernized Aging Infrastructure



ESG Pathway

Building Energy Management System

Data-oriented building energy management system to optimize energy efficiency



Efficient and user-friendly energy analysis tool

- Automatically transforms data into a well-organized data repository for energy visualization, diagnostics and analytics
- Tailors organization view of energy use via group or virtual I/O setting



IoT-based integral energy management platform

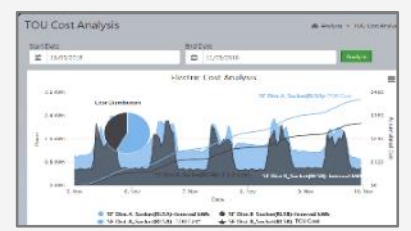
Delta Energy Online



Optimal Contract Analysis



RE100 Renewable Energy



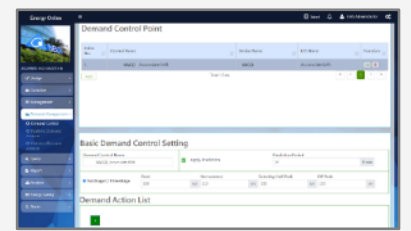
TOU Electricity Cost Analysis



Solar Power Statistics Dashboard



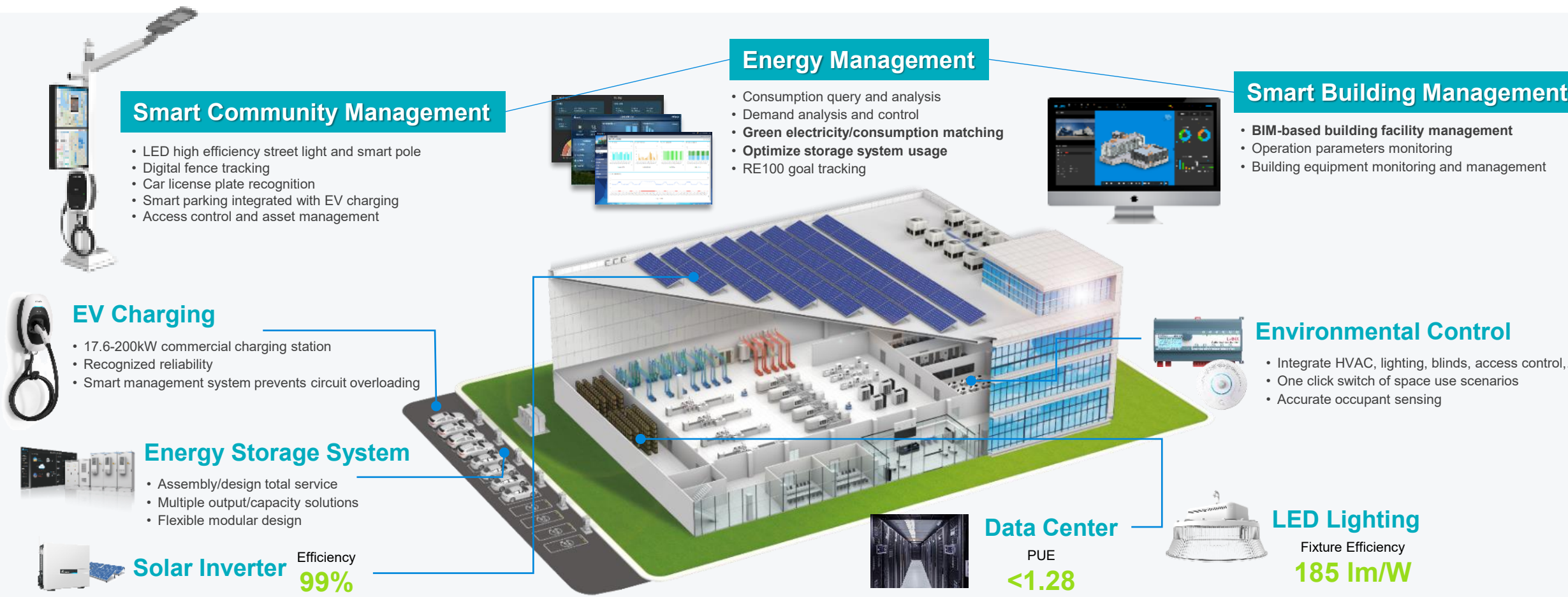
Ratio of Regenerated Electricity by Plant



Demand Analysis & Control



Smart Energy System Integration



Applications

- Energy Management
- Energy Generation
- Energy Storage
- Emergency Energy Support
- Real-time Control
- Peak Shaving & Load Leveling

Case Studies

Ako Energy Park Japan



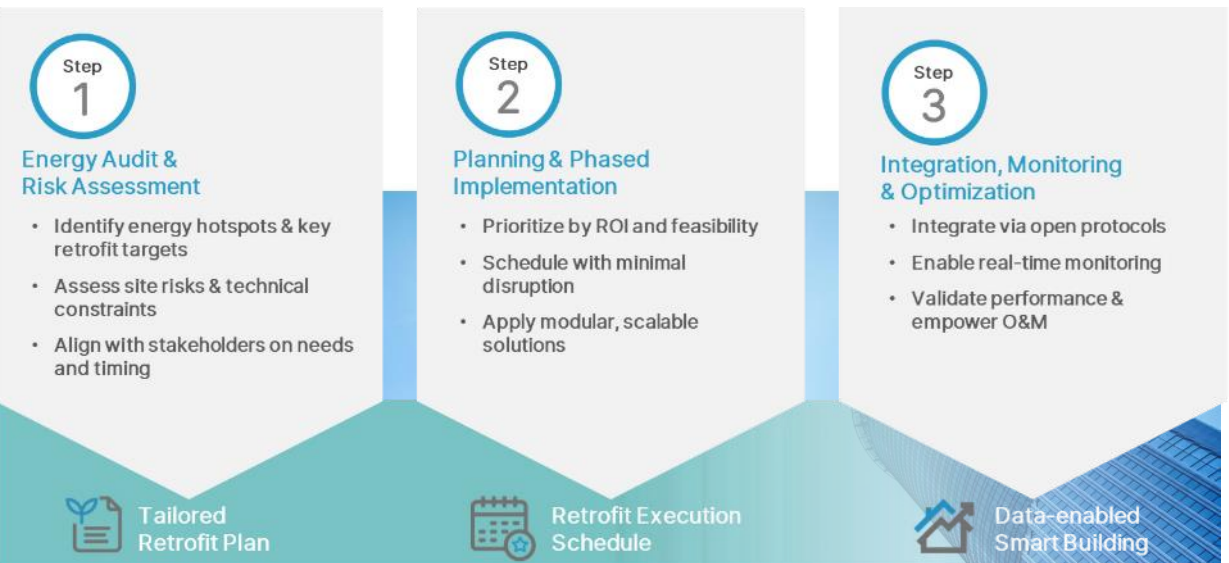
Sia Sing Power Plan Taiwan



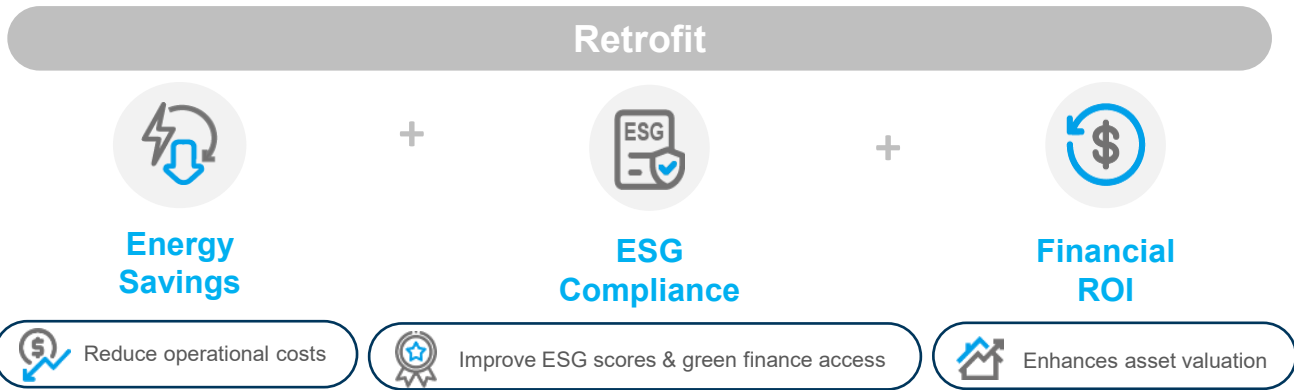
Namasia Elementary School Taiwan



Smart Retrofit Solution



Smart Retrofit: A Strategic Asset Move



- Design & Construction**
 - Cost reduction via:
 - Subsidies (e.g. GITA, EEG)
 - Green loans (GTFS)
 - Up to **20~30%** CAPEX support
- Financing Opportunity**
 - Capital rate reduction:
 - 2~5%** interest savings
 - Lower financing barriers
- Operations**
 - Energy savings:
 - 20~40%** reduction
 - Immediate OPEX impact
- Maintenance & O&M**
 - O&M cost reduction:
 - 10~25%** savings
 - Reduced unplanned downtime
- Compliance & ESG**
 - Full carbon compliance:
 - Avoidance of **100%** carbon tax risk
 - ESG readiness
- Asset Lifecycle Value**
 - Asset uplift:
 - +5~10%** valuation
 - +5~8%** rental yield improvement



Delta ESG Consulting



**ESG Strategic
Blueprint**



**Net-Zero Pathway
Planning**



**Supply Chain
Decarbonization**



A modern, brightly lit hospital hallway with waiting chairs and potted plants. The hallway is clean and spacious, with a polished floor and recessed ceiling lights. On the left, there are several rows of white waiting chairs. Two large potted plants are placed along the wall. The hallway leads to a glass-paned door at the end. The overall atmosphere is professional and calm.

Smart Safety & Resilience

Create Safer and Healthier Environments



Indoor Air Quality Control



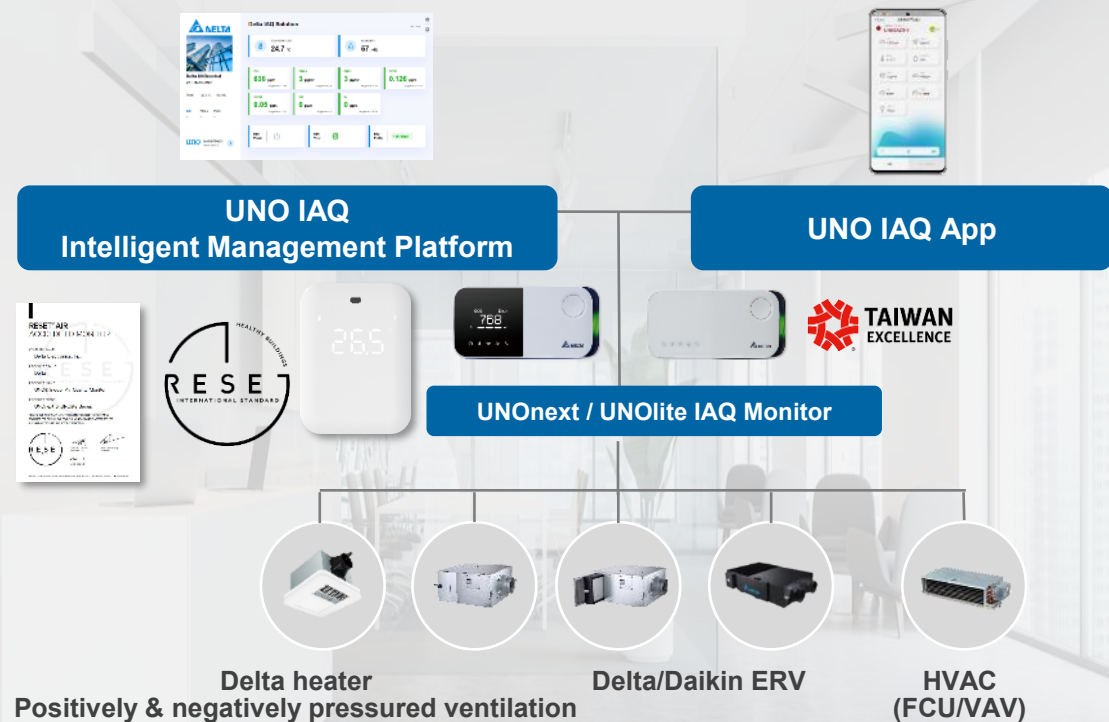
Infection Prevention & Healthcare Safety



Energy Resilience Management

Indoor Air Quality Solution

The Ultimate Sensor for Intelligent Air Quality Management



Complete Monitoring

Tracks all key pollutants and environmental parameters (CO₂, PM1, PM2.5, PM10, VOCs, CO, O₃) (temperature, humidity, luminance).



Proactive Control & Response

Goes beyond passive monitoring - automatically communicates with the ventilation system in response to detected pollutants.



IoT Analytics

Mobile and cloud access to air quality insights from anywhere. Flexible cloud service plans minimize upfront investment.



BACnet Integration

Direct compatibility with Building Management Systems (BMS) through BACnet protocol enables streamlined air quality management.



Environmental Certification

RESET and Work with WELL certified, supporting your ESG and wellness goals.



AI-Based Security Management System

Video Surveillance



Parking Management



Public Access Control



Energy Resilience Management Solutions

Uninterruptible Power Supplies (UPS)



Solar Inverter



Power Conditioning System (PCS)



- Integrate AIoT with EV, PV, ESS to enable Energy and EV infra. applications
- Architecture for high availability, security and reliability
- Platform for enabling data analytics
- Operation and Maintenance support

Battery Energy Storage System



Smart Logistics & Operational Efficiency



Support Smoother & Efficient Healthcare Journeys

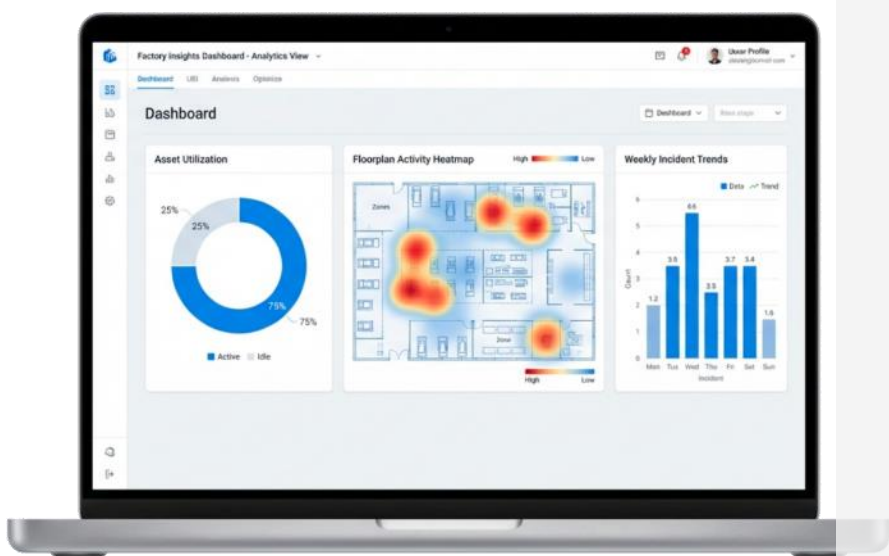


Patient Flow & Resource Utilization



Asset & Logistics Visibility

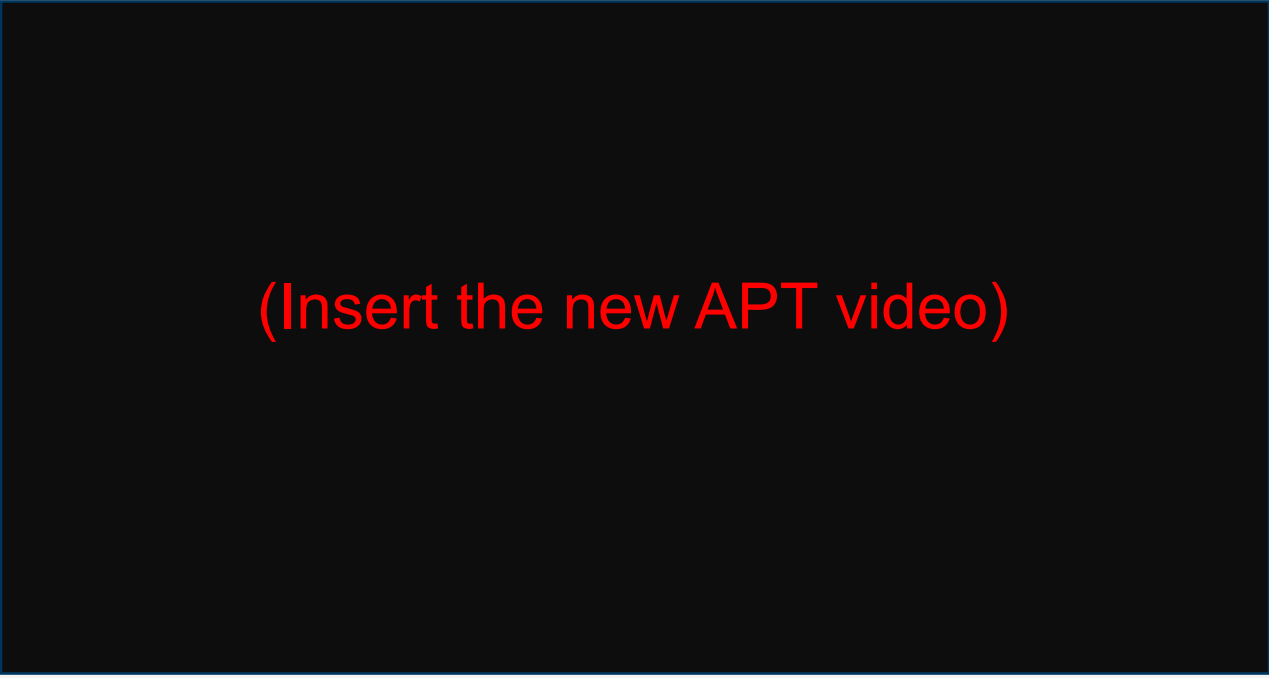
Asset and Personnel Tracking



Real-time Management of People Flow and Asset Tracking

connects medical assets, personnel, patients, and hospital spaces through location-based intelligence.

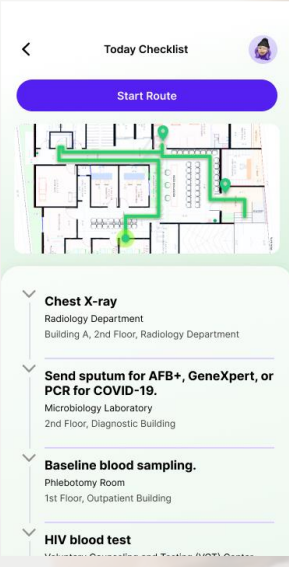
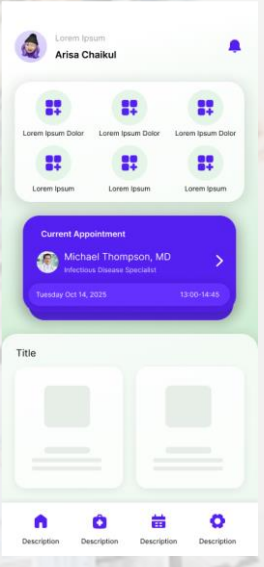
The solution is integrated with AI video analytics technology, shortens search time and optimizes workflows to support inventory and personnel management.



Smart Patient Flow Management



Automate monitoring of patient flow to reduce manual coordination and improve workforce efficiency amid staffing shortages.





Enabling Future-Ready Healthcare Innovation

Smart Energy & Decarbonization

Building Energy Management System

Smart Energy System Integration

Smart Retrofit Solution

ESG Consulting

Smart Safety & Resilience

Indoor Air Quality Solution

AI-Based Security Management

Energy Resilience Management

Smart Logistics & Operational Efficiency

Asset and Personnel Tracking

Smart Patient Flow Management



Proven Use Cases Worldwide



New Taipei City Municipal Tucheng Hospital
Taiwan



Beijing Hospital
China



Baptist Hospital of Miami
USA



Suang-Lien Elderly Center
Taiwan



Shanghai Oriental Hospital
China



Hospitals Senhor do Bonfim
Portugal

36

2

Green Buildings

Green Data Centers

Since 2006, Delta has developed green buildings for its global facilities and philanthropic endeavors.



Taipei Headquarters Ruyei Kuang Building I
LEED-EB Platinum
EEWH Diamond
WELL HSR



Taipei Headquarters Ruyei Kuang Building II
LEED Platinum
EEWH Diamond
BERS Net Zero Carbon Building



Taoyuan Technology Center
LEED Gold
EEWH Gold
WELL HSR



Taoyuan Plant 5
LEED Gold
EEWH Gold



Chungli Plant 5
LEED Gold



Chungli R&D Building
LEED Gold



Taichung Plant
LEED Gold
EEWH Diamond
WELL HSR



Tainan Plant Phase I
EEWH Diamond
WELL HSR



Delta Ring of Celestial Bliss
1st carbon footprint audit project



Orchid House
2014 Solar Decathlon
Europe 4 awards



Namasia Elementary School
LEED Zero Energy
LEED-EB Platinum
EEWH Diamond



Historical Lecture Hall, Taichung First Senior High School
Restoration in Green Building concept



NCKU Delta Building
EEWH



Tainan Plant Phase II
EEWH Diamond



Tainan Plant 2
LEED Gold



Shanghai R&D Center
LEED Zero Energy
LEED-EB Platinum
WELL HSR



Beijing Office
LEED Silver



Thailand Plant 5
LEED Gold



Thailand Plant 7
LEED Gold



Ako Energy Park
LEED-CI Gold



Americas HQs
LEED Zero Energy
LEED Platinum
WELL HSR



NCKU Y.S. Sun Green Building
LEED Platinum
EEWH Diamond



NCU Kwoh-ting Optics and Photonics Building
EEWH Bronze



Taiwan NTHU Delta Hall
EEWH Bronze



Delta Sunshine Elementary School, Sichuan, China
Delta Solar Building Design Competition



Delta Sunshine Junior High School, Sichuan, China
Delta Solar Building Design Competition



EMEA HQs
BREEAM
Very Good



Helmond Office
LEED Gold



India Bengaluru HQ & RD Centre
LEED Gold



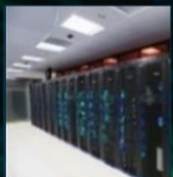
India Rudrapur Plant
LEED Gold



India Gurgaon Plant
LEED Platinum



India Mumbai Office
LEED Platinum



Delta Wujiang IT Data Center
LEED V4 ID+C Gold



Delta HQ IT Data Center
LEED V4 ID+C Platinum



Delta Low-Carbon Residence, Jiangsu, China
Delta Solar Building Design Competition



Low Energy Consumption Housing, Qinghai, China
Delta Solar Building Design Competition



Delta Sunshine Teaching Building, Dazhai High School, Yunnan
Delta Solar Building Design Competition



Guangzhou Public Utility Technician Club Complex
Delta Solar Building Design Competition

Delta Building Brand Value

Smart Buildings for Better Living

Best-in-class professional LED commercial lighting
*No. 1 in the downlight market share



Top 12 in A&S Security 50,
Leading AI Surveillance provider

High-efficiency energy-saving, high protection grade LED industrial lights



Integration Solution Provider

Intelligent, Healthy and Energy-efficient Buildings



VSaaS cloud surveillance service platform

Human-centric environmental controls and HVAC control BACnet Expert



IoT-enabled open building infrastructure

Your Strategic Partner for Healthcare Transformation

**Business
Development**



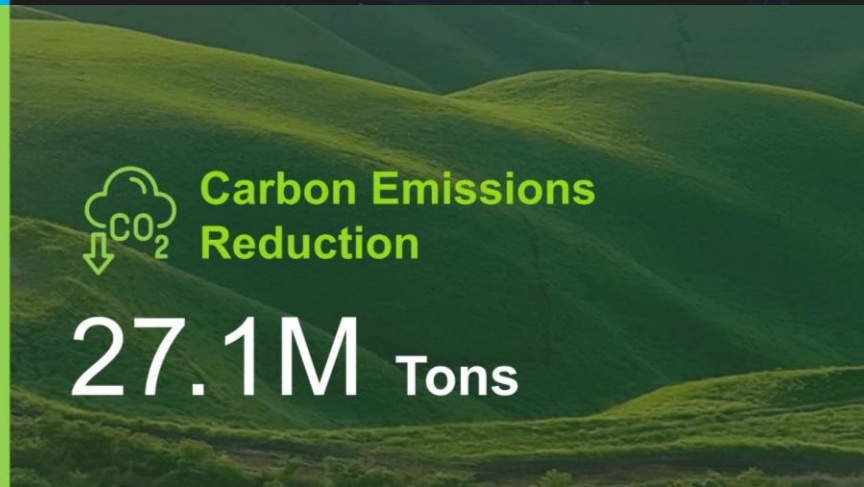
Corporate Mission

To provide innovative, clean
and energy-efficient solutions
for a better tomorrow

**ESG
Commitment**

Achievements and Recognitions

Energy Saving for Customers



Awards



2024

ASEAN Energy Awards
Energy Efficient Building
ASEAN Centre for Energy



Recognized 5 times in
the Double A-List for
Climate Change and Water Security
Supplier Engagement Leader
for 8 consecutive years



2017 - 2022

Thailand Energy Awards
By The Ministry of Energy



2019

Thailand's Top
Corporate Brand Hall of Fame
By Chulalongkorn University



**"Delta is driving the future of
AI-powered healthcare communities,
enhancing efficiency, resilience, and
sustainability for a Net Zero World."**

Visit us at Hall 103, Booth V9





Smarter. Greener. Together.

