VERTRIQE
Powered by Control Free

SUSTAINABLE DEVELOPMENT GOALS

Seamless Integration, Sustainable Solutions:
無縫整合，可持續解決方案：

CONQUER DISCONNECTED SYSTEMS, INEFFICIENT ENERGY USAGE, AND SCALABILITY CHALLENGES.
解決系統割裂、能源效益低下及擴展難題

AN AI DRIVEN ENERGY-SAVING TECHNOLOGY (ADEST) FOR REFRIGERATED SYSTEMS with BLOCKCHAIN
人工智能驅動的節能技術（ADEST）結合區塊鏈技術,專為製冷系統而設

OUR VISIONARY SOLUTION
我們的創新方案

AT VERTRIQE | 於 VERTRIQE -

we are revolutionizing the way refrigerated systems (HVAC / VRV / VRF / Chiller / Split Units / Cold Rooms) consume energy | 我們正革新各類製冷系統（包括暖通空調 / 變冷媒流量多聯系統(VRV/VRF) / 冷水機組 / 分體式冷氣機 / 冷藏庫）的耗能模式

Our innovative technology - **ADEST** is designed to use AI to eliminate inefficiencies and reduce energy wastage, leading to a more sustainable and cost-effective solution for refrigeration needs. With Blockchained “DATA”, you won’t have to worry about “Greenwashing” | 我們的創新科技 - ADEST 運用人工智能技術，徹底消除系統低效運作，減少能源浪費，為製冷需求提供更可持續且符合成本效益的解決方案. 有了區塊鏈化的「數據」，你就唔使擔心「漂綠」。

THE CHALLENGE OF TODAY'S CURRENT AC SYSTEM | 今日中央空調系統的挑戰

THE PAIN POINTS | 痛點:

- The original AC system activates the compressor when its sensor temperature exceeds the set point temperature | 原本的中央空調系統在感應器溫度超過設定溫度時啟動壓縮機
- Typically, the sensor is integrated into the indoor unit of the AC or within the wall-mounted thermostat | 感應器一般安裝在空調的室內裝置或牆上的恆溫器中
- The layout of most rooms does not optimize airflow | 大多數房間的設計無法優化氣流
- This leads to inaccuracies in sensor temperature readings | 這導致傳感器溫度讀取的不準確性
- Consequently, the compressor may be activated unnecessarily | 因此，壓縮機可能不必要地啟動
- The AC system does not monitor humidity levels | 空調系統不監測濕度水平

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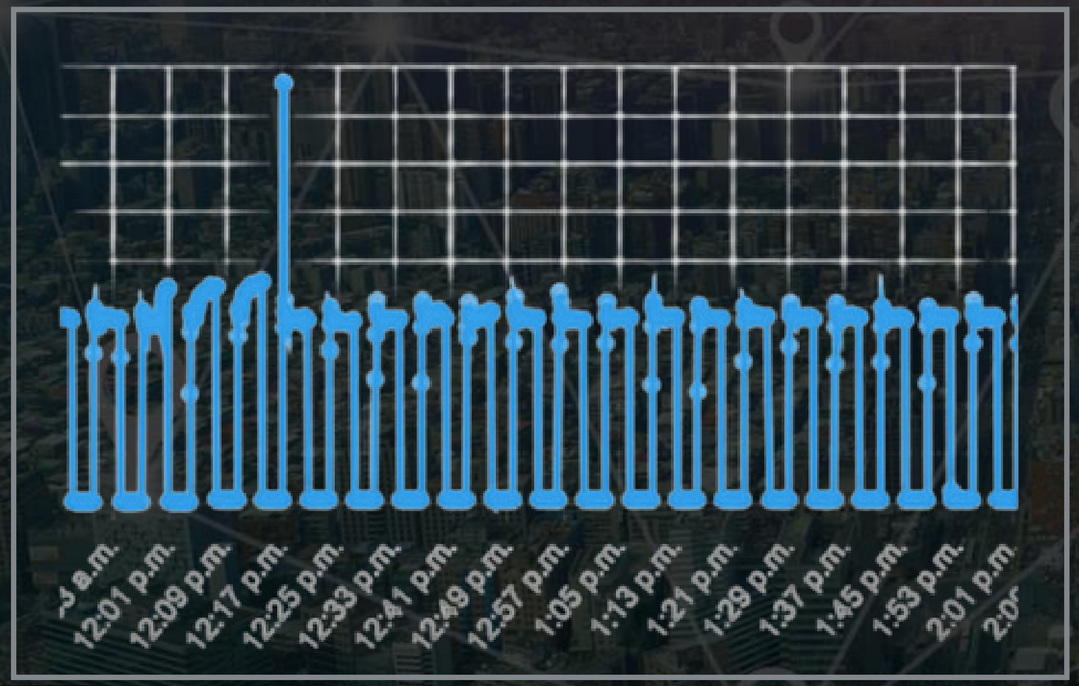
HOW OUR SOLUTION CURES PAIN POINTS
我們的解決方案如何解決痛點

- Discover the crucial individuals and critical temperature zones | 發現關鍵人物和重要的溫度區域
- Cutting-edge ambient sensors for highly precise temperature and humidity measurements | 最新的環境傳感器提供高度精確的溫度和濕度測量
- Achieve optimal temperature and humidity control in indoor spaces | 在室內空間實現最佳溫度和濕度控制
- Intelligent compressor management that knows when to turn off, even when the AC thinks it should be on | 智能壓縮機管理，精準控制空調的開關時間
- Maximize energy savings by extending the duration of compressor downtime | 延長壓縮機停機時間，最大化能源節約
- Never compromise on comfort, while significantly reducing energy consumption | 在顯著減少能源消耗的同時，絕不妥協於舒適性

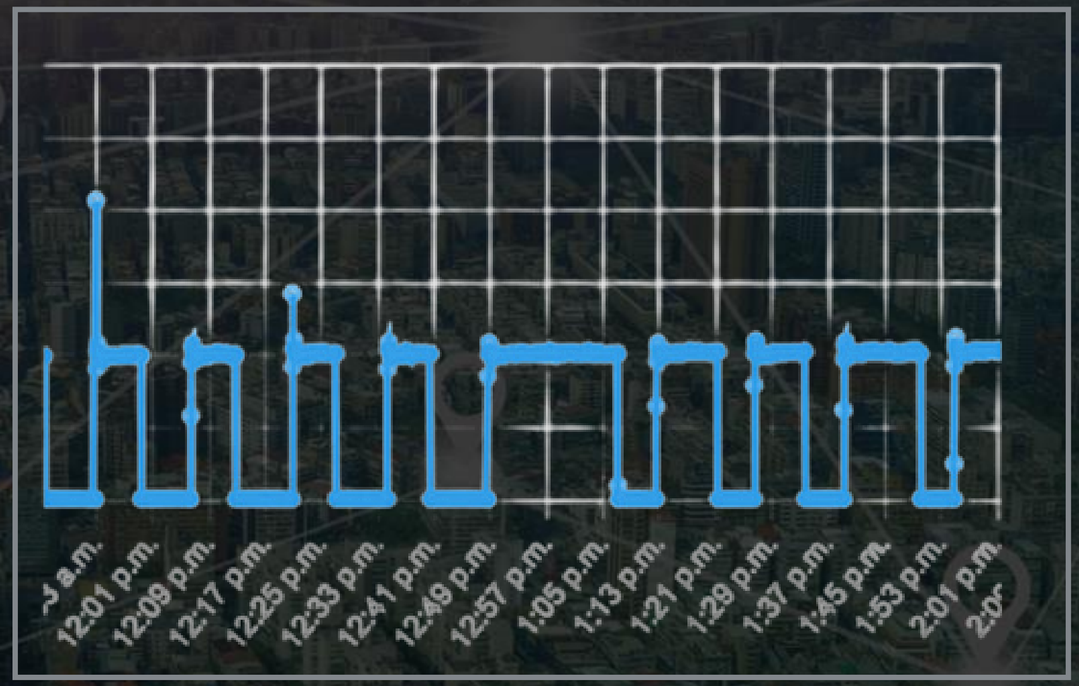
BEFORE AND AFTER | 改革前後 ...

AC Compressor Behaviour | 空調壓縮機行為

- With VERTRIQE's ADEST the AC compressor downtime is longer
  有了 VERTRIQE 的 ADEST 後空調壓縮機停機時間更長
- Results in significant energy saving | 帶來顯著的節能效果



w/o | 沒有 VERTRIQE

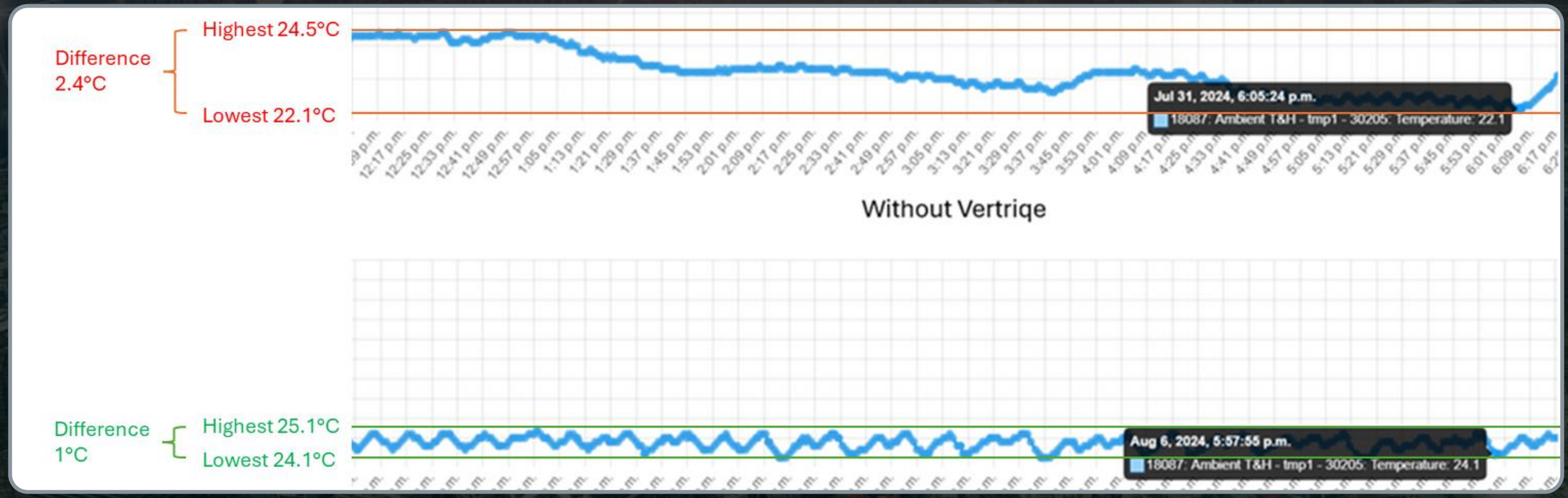


with | 有 VERTRIWE

BEFORE AND AFTER | 改革前後 ... cont. | 續

Environment Temperature | 環境溫度

- With the VERTRIQE ADEST the room temperature is precisely controlled
  使用 VERTRIQE ADEST 後房間溫度得以精確控制
- Improved comfort level to users | 提升使用者的舒適度



ADEST SYSTEM FEATURES
ADEST 系統特點

- Demand-driving Energy Saving Algorithm | 需求驅動能源節約算法
- AI learning (Adaptive Control) | AI 學習（適應性控制）
- Real-time IoT Control (remotely without the need of technicians on-site)
  實時物聯網遙距控制（無需技術人員在現場操作)
- Non-invasive Installation (will NOT Void AC Warranty) | 無侵入性安裝（不會失去空調保養)
- Compatible with virtually ALL types of ACs | 幾乎兼容所有類型的空調
- ACs can “communicate” with each other in the same zone | 空調可以在同一區域相互“通信”
- Ambient Comfort, Temp & Humidity Monitoring | 周邊舒適度，溫度和濕度監測
- Including Radar Sensors and optional IAQ Sensors | 包括雷達傳感器和可選的 IAQ 傳感器
- Electricity Consumption Monitoring | 電力消耗監測
- Possible Saving 15 - 40%+ | 可能節省 15-40%+
- Dashboard Overview | 儀表板總覽
- Control Capability extends to other appliances | 控制功能擴展到其他電器
- ESG extended features | ESG 擴展功能

with ONE Dashboard View | 擁有單一儀表板視圖

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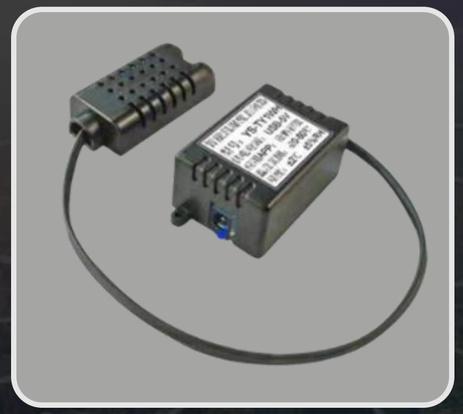
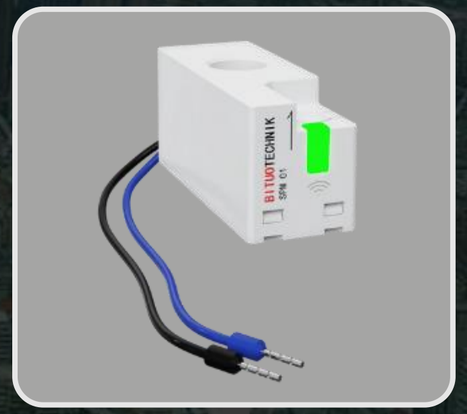
THE SYSTEM | 系統

- Ambient Temperature & Humidity Sensor | 環境溫度及濕度感應器
  - Collect the T&H value of each zone | 收集每個區域的溫度與濕度（T&H）值
- AC Supply Air Sensor | 空調供氣感應器
  - Collect the T&H value of the AC | 收集空調的溫度與濕度（T&H）值
- Occupancy Sensor | 人體存在感應器
  - Detect human presence in the area | 偵測區域內的人員存在
- AC Controller | 空調控制器
  - Control each AC – ON/OFF, Mode, Fan Speed etc. 控制每台空調 - 開/關機、模式、風速等
- Wireless Energy Sensor | 無線能耗感應器
  - Collect the real-time energy usage value of the AC 收集空調的實時能耗數據





VERTRIQE Example | 例子:

AI Refrigerated Base Energy Efficiency System

AI冷卻式系統節能系統

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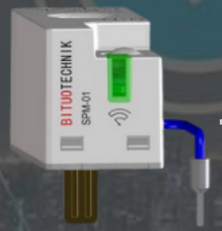
Wireless Energy Sensor
無線電錶

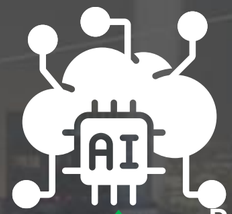


Wireless signal
無線訊號

Wireless Gateway
無線網關

Smart Hub
智慧中心

Proprietary AI Energy Efficiency System
專有AI能效系統



Roof Top | 屋頂

Lab Floor | 室內單位

AC Indoor Unit
室內空調機

AC Controller
空調控制器

Smart Hub
智慧網關

WiFi / Ethernet
無線網路/以太網

Control Free Cloud | 雲端

Supply air sensor
出風口傳感器

Wireless signal
無線訊號

Wireless Ambient Sensors (Temperature & Humidity)
無線環境傳感器
（溫度和濕度）

(Optional) Wireless Motion Sensor
（選購）無線人體存在感應器

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OTHER BENEFITS | 其他益處

- **Remote control of the AC from anywhere and at any time**
  隨時隨地遠端遙控空調
- **Schedule the AC to switch on and off for energy savings**
  排定空調開關機時間以節省能源
- **Get notifications via mobile app or email when temperature/humidity/energy values reach specific levels**
  當溫度/濕度/能源數值達到特定水平時，透過手機應用程式或電子郵件接收通知
- **Assist in removing unpleasant odors from the AC**
  協助去除空調的不良氣味
- **SDG Compliance**
  符合SDG（可持續發展目標）要求

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