

IAQ Solution Empowers Sustainability of Smart Retail in Singapore NEX Shopping Mall

Milesight Strives to Achieve Effective Indoor Air Quality Monitoring to Ensure Good Air Quality and Optimize Energy Consumption for Improved Smart Retail Performance

In Singapore

Milesight Partner
UnaBiz

Location
NEX Shopping Mall, Singapore

Number of Devices Deployed
AM319 * 35

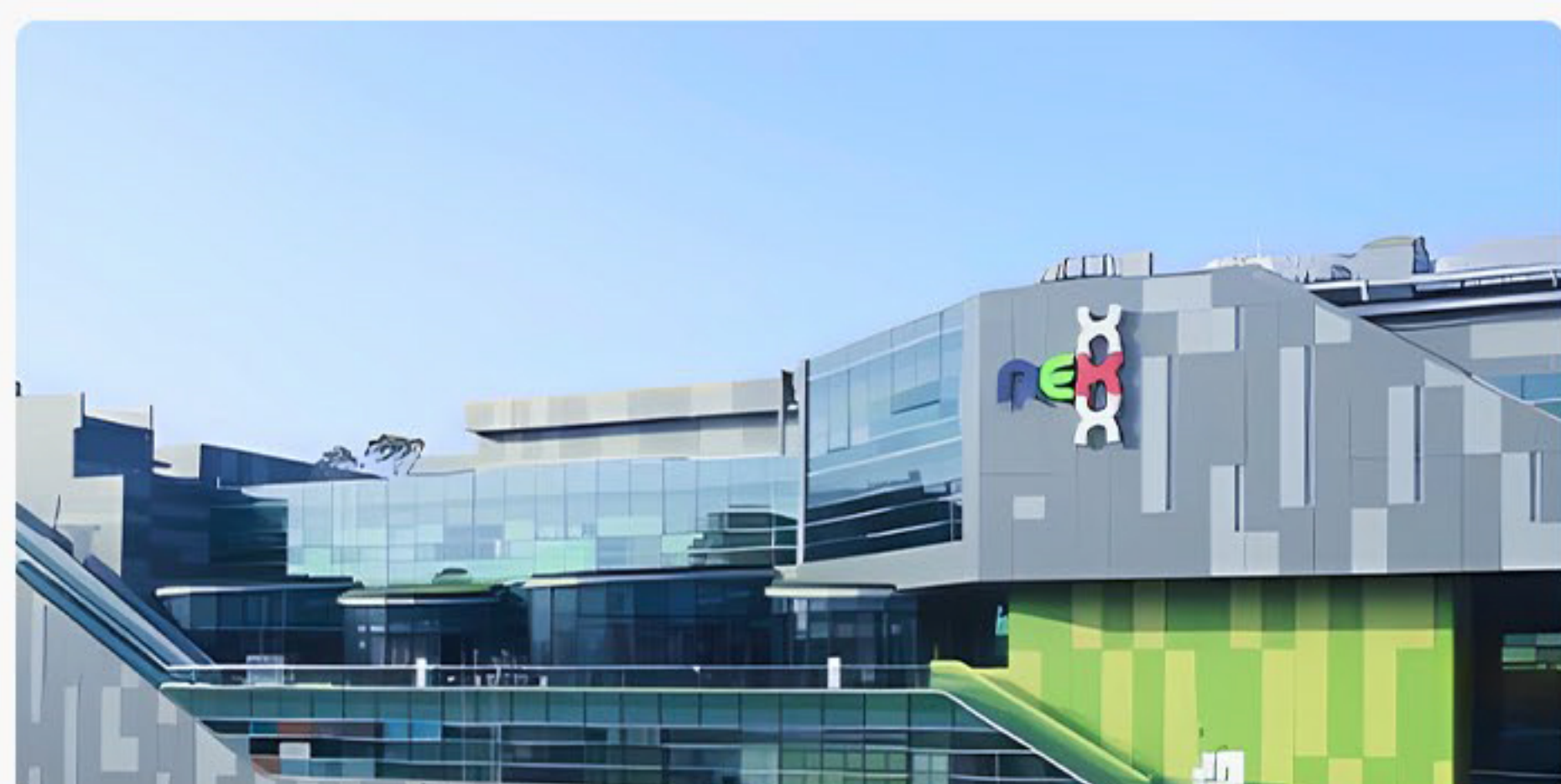
Applications
**Indoor Air Quality/Smart Building/
Facility Management/Energy Saving/
Smart Retail**

[Success Story](#)

Background

NEX, the largest suburban mall in the northeast region of Singapore, is a seven-storey shopping mall strategically located at the Northeast Line and the Circle Line Mass Rapid Transit line rail network intersect and is fully integrated with the air-conditioned Serangoon Bus Interchange. Positioned as the vibrant, social, and recreational hub for the North-East community, the shopping mall receives an average of 3 million shoppers each month within the 635,000 square foot mall daily.

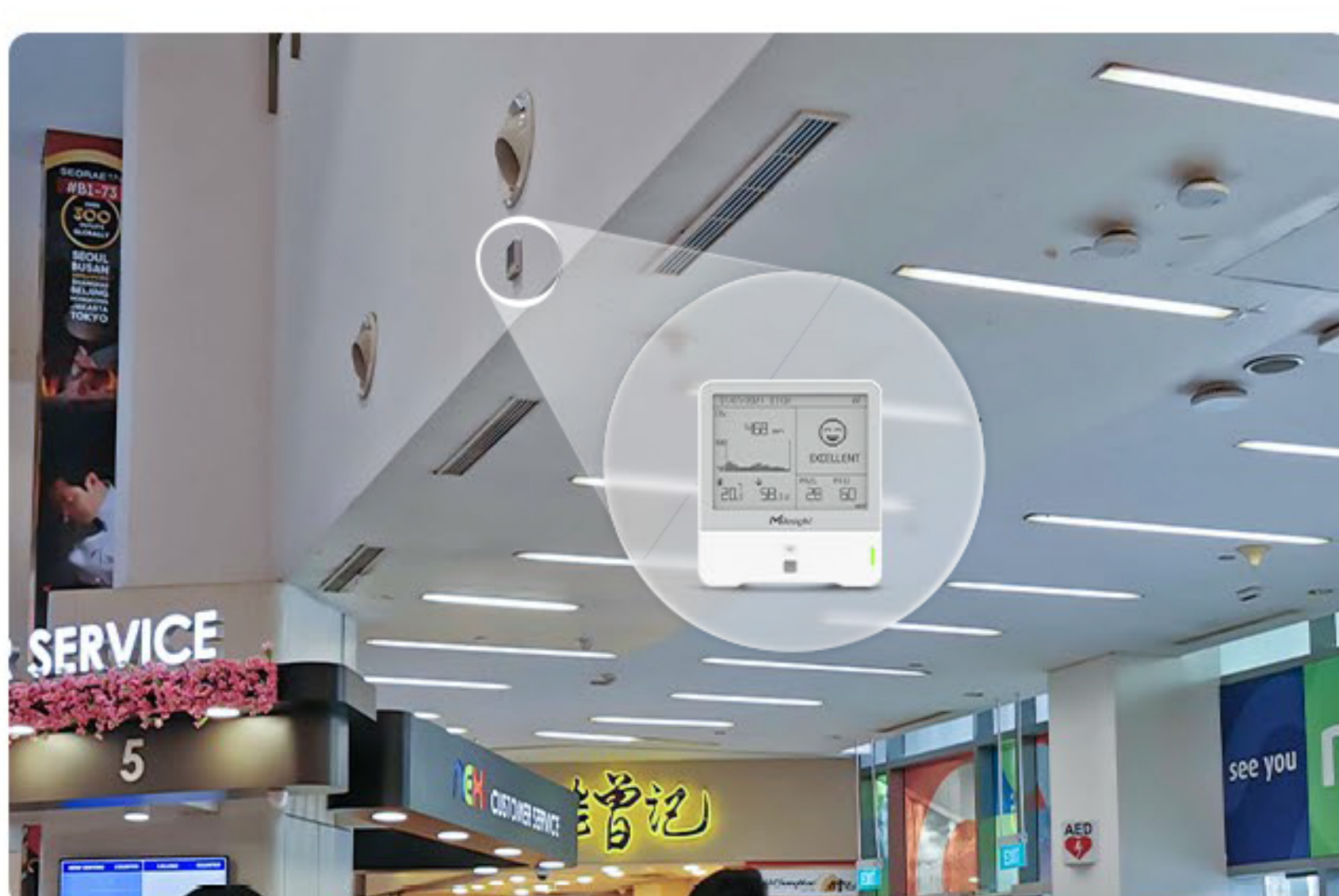
The main purpose of HVAC systems are to help maintain comfort and a stable temperature. A data-driven HVAC system helps ensure good air quality for shoppers and tenants wellness, while a high energy-efficiency system helps optimize energy consumption and reduce carbon emissions. IAQ monitoring is also one of NEX's latest initiatives to improve "Health and Well-Being", the 3rd goal under the United Nations 17 Sustainable Development Goals.



Challenges

Sensing and capturing data via IoT allows NEX to digitize information for better collection and control. The IAQ data is then seamlessly integrated into NEX's local building management system (BMS) managed by Honeywell. Notably, this is the first project in Singapore with this retrofit. Most buildings in Singapore also face similar challenges as NEX shopping mall where integration of new technologies to local BMS is tedious and time consuming. In extreme cases, some buildings do not even have a local BMS.

Project



The smart control system achieving smart retail automatically adjusts NEX's air-conditioning to optimize thermal comfort for users, the IAQ, and the energy consumption of the HVAC / ACMV system live. Software programming by Honeywell to optimize the PAHU to integrate the IAQ sensors to vary the Variable Speed Drive (VSD) device to pump more fresh air to the troubled zone(s). The IAQ information from Milesight's sensors deployed by UnaBiz is linked to Honeywell's Forge Platform Dashboard, a new sub-system developed by Honeywell, in the form of widget to give a summary on the health status inside the mall. Highly scalable, UnaBiz sees the potential for this new development to pave the way for more of such similar sub-systems to be developed by other BMS providers.

Facility managers can take immediate actions to improve circulation of air, such as increasing the airflow within the mall, as traffic in the mall increases during peak hours, to create a healthier and safer environment for shoppers, tenants, and staff. On the other hand, during the mall's off-peak period, where traffic and footfall to some areas of the mall is low, facility managers can also lower the air flow so as to conserve energy and optimize its HVAC system.

Results

By integrating Milesight's IAQ monitoring IoT solution with the mall's HVAC / ACMV system to optimize airflow and energy consumption, the solution enables the achievements of safety, quality, and sustainability for great smart retail performance.

Quality Indoor Air

Quality of indoor air for shoppers, tenants, and staff is improved to create a healthier and safer environment for wellness.

Improved Health and Safety

Health and Safety in terms of occupant wellness of the indoor environment with improved circulation of air. NEX increases the airflow within the mall, as traffic in the mall increases during peak hours.

Realized Sustainability

Sustainability is achieved since a data-driven HVAC/ ACMV system helps optimize energy consumption and reduce carbon emissions through the use of IoT. Occupancy and IAQ data collected and monitored via IoT systems can effectively balance the fresh air intake required for ventilation and help in energy savings.

Why Choose Milesight



NEX is owned and managed by Gold Ridge Pte Ltd, and PGIM Real Estate is the asset manager for the property. "The strategic improvements completed at NEX, geared toward furthering the sustainability of the asset, are demonstrative of PGIM Real Estate's broader commitment to incorporating ESG principles across our global portfolio," said Mr Benett Theseira, PGIM Real Estate's Head of Asia Pacific.



"As part of our strategic move to align our business operations with the company's ESG goals, NEX has initiated numerous green initiatives in the running of the shopping mall. With UnaBiz's IoT solution, we measure the IAQ of the mall every minute, which is equivalent to 1440 data points throughout the mall on a daily basis. The data is then seamlessly integrated into our local building management system managed by Honeywell. The smart control system automatically adjusts the air-conditioning to optimize thermal comfort for users, the air quality indoor, and the energy consumption of the HVAC system live. Facility managers can now take immediate actions to improve circulation of air, such as increasing the airflow within the mall, as traffic in the mall increases during peak hours, to create a healthier and safer environment for our shoppers, tenants, and staff," said Eugene Toh, Senior Manager, Operations of NEX.



Partner



UnaBiz is a global Massive IoT service provider that specialises in solution design, manufacturing, connectivity and data platform services across a hybrid of low-power wide-area (LPWA) technologies such as Sigfox 0G, LTE-M, NB-IoT and LoRaWAN®, to power sustainable business growth. Founded in 2016, the company is headquartered in Singapore, with R&D centres in Taipei and Labège (FR), and sales offices in Tokyo, Paris, Madrid and Holland.

UnaBiz owns the Sigfox 0G technology that connects 12 million sensors for 1500 B2B customers on the global 0G Network, owned and commercialised by 70+ national Operators worldwide. The company focuses on Utilities, Supply Chain & Logistics, Security and Facilities & Building Management.

UnaBiz envisions a closely connected world powered by simple technology because it believes in "Less is More". By uniting people and IoT technology, it aims to create an impact on a massive scale, to help every person and every organisation on the planet live smarter, simpler, and more sustainable way.

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